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THE BRITISH PTERIDOLOGICAL SOCIETY

BULLETIN

VOLUME 7 NUMBER 4

2011

Edited by A.M. Paul

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THE BRITISH PTERIDOLOGICAL SOCIETY

Registered Charity No. 1092399

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The BRITISH PTERIDOLOGICAL SOCIETY was founded in 1891 and is still a focus for fern enthusiasts, its wide membership including gardeners, nurserymen and botanists, both amateur and professional. It provides a wide range of information about ferns through its publications and website, and also organises formal and informal indoor meetings, field meetings, garden visits, a plant exchange, a spore exchange and fern book sales. The Society's journals, *The Fern Gazette*, *Pteridologist* and *Bulletin*, are published annually. *The Fern Gazette* publishes matter chiefly of specialist interest on international pteridology, the *Pteridologist*, topics of more general appeal, and the *Bulletin*, Society business and meetings reports. **Website: www.eBPS.org.uk**

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(**Front cover**: *Adiantum capillus-veneris*. Illustration from: E.J. Lowe (1867) *Our Native Ferns* volume 2.)

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THE

BULLETIN

OF THE

BRITISH PTERIDOLOGICAL SOCIETY

Vol. 7 2011 No. 4

MISSOURI BOTANICAL

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NATIONAL FIELD MEETINGS

MADEIRA – 19-26 March (Leader: Andrew Leonard)

[*Participants*: Bruce Brown, Peter & Sarah Campion, Ann & Barry Colville, Alison & Liz Evans, Andrew Leonard, Mattan Schout.]

[*Note*: Fred Rumsey's comments on some of the more problematic material are included in square brackets.]

Saturday 19th **Bruce Brown**

Eight of us took the four-hour flight from Gatwick to Madeira, where Mattan Schout from Holland was waiting to join us. Along with one or two others, I had never visited the island before so was much looking forward to our week's stay. We drove in the hired minibus the short distance along the coast to Santa Cruz for an al fresco lunch in pleasant sunshine. But not before the fern spotting had begun. Our first species was *Cosentinia vellea* growing along the retaining wall of the river flowing through the town and sharing its habitat with sunbathing lizards. *Adiantum capillus-veneris* came next. Sharp eyes from the café spotted a tree fern, which turned out to be *Cyathea cooperi*, commonly planted in gardens and parks but, as we were to find out on later days, naturalised over the island.

We took a scenic route via Santo da Serra to the northern side of the island. The land rises rapidly from the sea with terrace-style cultivation and houses perched one above the other, linked by very steep twisting roads and hairpin bends, so our progress was never swift. Above Gaula we made a couple of short stops in the area of Aguas Mansas to get our first impressions of the general fern flora on the roadside banks and walls. *Polypodium macaronesicum* (a *P. cambricum* look-alike) was ubiquitous, along with *Davallia canariensis* with its distinctive rhizomes. 'Our' *Asplenium ceterach* was replaced here by *A. lolegnamense*, similar looking but with much larger fronds – very attractive. Some southern outpost British ferns that I had not seen before were prolific here – *Anogramma*

photo: A.J. Evans

***Asplenium lolegnamense* above Gaula, Madeira**

photo: A.J. Evans

Anogramma leptophylla
above Gaula, Madeira

leptophylla and *Asplenium onopteris*, along with another spleenwort I knew from the Scillies – *A. obovatum* subsp. *lanceolatum*. Our first club-moss, *Selaginella denticulata*, was also here and proved to be common everywhere in Madeira.

After a spectacular descent to the north coast we stopped by a large rock outcrop south of Porto da Cruz to view a few interesting aliens. This was the one site Andrew knew for *Pityrogramma calomelanos* subsp. *austroamericana*, a native of tropical America, growing well here and recognisable by its silvery white underside and yellow spores. A few *Doodia caudata* and one plant of *Adiantum hispidulum* were also found. Some of the native *Pteridium aquilinum* was acting strangely in allowing its exposed rhizomes to crawl over the bare rock surface.

Time was getting on as we drove along the spectacular coastline, zigzagging over summits, plunging down to cross deep valleys or burrowing through tunnels, but at least our hotel was getting steadily closer – or so we thought. Without any warning we found the road ahead had been closed by a landslide and a huge digger blocked any further progress. There was nothing for it but to back-track to the south side of the island, traverse Funchal – fortunately on a motorway section, then climb back into the mountains to finally reach our hotel at Encumeada hours later in pitch dark, but fortunately not too late for dinner! It had turned out to be a long first day.

Sunday 20th **Peter Campion**

After the long day on Saturday, getting up for breakfast at 8 o'clock was an effort but we all made it and gathered at the van for 9 a.m. The day dawned slightly uncertainly as to weather but with promise of being without rain. We drove to São Vicente, along the coast to Ribeira da Janela and then inland on the road to Fanal and parked near Pico Vara at 684 metres. We were up in the mist, which gave the site an ethereal feel as we set off along a bridleway surrounded with heather bushes and laurel trees. For the first 400 metres it was a wide path but then we had a few wiggles and we began to see that to stray far could easily result in getting lost. Along the way we saw *Pteridium aquilinum*, *Blechnum spicant*, *Pteris incompleta*, *Cyathea cooperi*, *Davallia canariensis*, and *Selaginella kraussiana* and *S. denticulata*. No wonder we had to be chided for being slow due to stopping to admire and photograph. Then we reached the ravine. Some of us plunged down through damp trees and moss over slippery ground. Then there, just above our heads, Mattan spotted *Elaphoglossum semicylindricum* growing as an epiphyte on the very tree we were using for support as we started down. The microclimate of the gorge was such that *Cyathea cooperi* had young sporophytes along the rim. Since they are not native it was further proof, if any was needed, that *C. cooperi* has naturalised very successfully. The highlight here was the many plants of *Culcita macrocarpa.* We also found some sporelings, which was encouraging for the future of this very rare plant.

Although still misty, it had begun to warm up by the time we had extracted ourselves and made our way back to the bus, and we drove a short distance to a lovely viewpoint (Miradouro) with wide vistas. We even had picnic tables to use as we ate the cheese and ham rolls that Andrew had done a special deal on at the bread shop on our way that morning.

Next we went a little way to Alagoa, a small lake that clearly rises and falls within its bowl to a considerable extent but on this occasion was low, enabling us to take in the gentle cows

and ancient laurel trees. The mists and lake water create a damp microclimate that supports *Davallia canariensis*, *Elaphoglossum semicylindricum* and *Polypodium macaronesicum* on the trees and, even more excitingly, *Hymenophyllum tunbrigense* beneath, with possibly *H. wilsonii* or was it *H. maderense*? There was much use of lenses and studying of the exact wording of the *Flora of Madeira* 'Bible' but no conclusion was reached. [It was later confirmed to be *H. wilsonii* and this is a well known locality for this fern. – FJR] Lizzie was hoisted onto a branch of one of the old laurels to give scale to the epiphytes in the photographs or that was the excuse!

photo: A.J. Evans

Liz Evans with epiphytic ferns, Alagoa, Madeira

We took a short ride down the road and explored the Levada dos Cedros southerly for about one and half kilometres. We quickly found a lot of *Polypodium macaronesicum*, *Woodwardia radicans* and *Pteris incompleta.* For the inexperienced, the fronds created a bewildering array within which to spot other things! For some, the highlight of this walk was finding a crested form of *P. incompleta.* To the writer *Dryopteris affinis* did not seem as scaly as in the UK and showed some *D. borreri* characteristics. This good potter along our first levada also gave the writer lessons on distinguishing between *Adiantum capillus-veneris* and *A. raddianum* and on how to identify *Asplenium monanthes*, all resulting in a good afternoon.

Back at the hotel we soaked up a few beers before our supper.

Monday 21st **Alison Evans**

After a brief trip to the supermarket to buy lunch, we headed towards Santana, enjoying glorious weather and lovely views. There were several ferns to record around the forestry houses near the car park at Queimadas, including *Cystopteris diaphana*, *Cyathea cooperi*, *Athyrium filix-femina* and *Stegnogramma pozoi*. Along the Levada do Caldeirão Verde we were soon seeing *Pteris tremula*, *Woodwardia radicans*, *Asplenium monanthes*, *A. onopteris*, *Diplazium caudatum*, and all four of the *Dryopteris* species on our list (*D. aemula*, *D. affinis*, *D. aitoniana* and *D. maderensis*). *Selaginella denticulata* sprawled over the banks of the levada, whilst *S. kraussiana* was luxuriant in the wetter, shadier places. A short detour along a gully to the left of the path took us to a plant of *Polystichum drepanum*, hanging on to the side of the gully at about eye-level. The *Trichomanes speciosum* and *Hymenophyllum tunbrigense* growing there were almost ignored in the excitement of seeing this very rare *Polystichum.* A detour along the opposite side of the gully eventually revealed a second plant of *P. drepanum*, again clinging to the almost vertical gully wall.

Further along the levada path on a rock to the right we found a colony of *Hymenophyllum* looking superficially like *H. wilsonii*, but further examination by Bruce later showed low spore fertility. [The identity of this has been the cause of debate – its repeated poor fertility suggests it is a hybrid and not *H. maderense.* Initially considered to be a backcross as a plant from this general area found by Alston showed an odd chromosome number, its morphology is more in keeping with it being *H.* × *scopulorum*, the F_1 hybrid between *H. wilsonii* and *H. tunbrigense*. – FJR] Bruce and Andrew ventured down the very steep slope of the gully to look for further specimens of this putative hybrid; the rest of us watched from a safe distance or walked on to

find a lunch spot. Our attempt to catch up with the advance party was foiled by finding *Asplenium anceps* for the first time on the trip, Bruce climbing down into the levada to retrieve a frond. Apart from having several sori on each pinnule, this differs from *A. monanthes* in having more widely spaced pinnules and a three-winged rachis. We then found the others having lunch on a sunny rock by the path, just beyond a large waterfall. Goldcrests in the tree above provided lunch-time entertainment, with their busy flitting from branch to branch.

photo: A. Leonard

Levada do Caldeirão Verde, Madeira

Bruce Brown, Ann & Barry Colville, Liz Evans, Sarah & Peter Campion, Alison Evans

We walked briskly back to the cars to drive to the second site lower down the road, Ribeira Silveira. We parked where a tree seems to grow in the middle of the road, and walked up the left bank of the stream, at first on an uneven rocky path, but then branching right to rocks by the side of the stream. Here we found *Hymenophyllum maderense* growing on a large boulder, with two to four segments on the pinnae, and rounded, untoothed apices to the indusia. Later examination of the spores showed them to be fertile. The woodland floor was covered in places with *Trichomanes speciosum* and handsome plants of *Dryopteris maderensis* and *D. aemula.* We were just turning back when Bruce found a further colony of *H. maderense* on a large boulder further upstream. [Both these populations of *H. maderense* confirmed. – FJR] After several more photos we returned to the cars to find that Peter's camera had fallen off his belt and unfortunately a search failed to recover it.

Our third stop was for roadside ferning at Cruzinhas. A lovely plant of *Asplenium aethiopicum* was just too high up in the wall for comfortable photography, but after looking at several other ferns in the area, including *Anogramma leptophylla*, *Pteris tremula*, *Doodia caudata*, *Christella dentata* and *Deparia petersenii*, Andrew found a colony of *A. aethiopicum* near steps going to fields below the road. Some judicious pruning of brambles was needed to enable photography here. This site brought the total number of taxa seen during the day up to 31. A long but very rewarding day.

Tuesday 22nd **Mattan Schout**

On a fine sunny morning we assembled at the viewpoint at Encumeada (1,007 metres) and climbed up to the television mast, which is the only site where *Diphasiastrum madeirense* is found. It grows below *Erica arborea* bushes and from there the long-creeping stems hang down from the rock-face. Climbing higher and higher on the rocky steps we noted many of the ferns we had encountered on previous walks. We spent quite some time checking out the hymenophyllums; both *H. tunbrigense* and *H. wilsonii* were found, but even this was confusing at times as we found plants that looked like *H. wilsonii* but had toothed indusia. [This site has been known from the visits of John Lovis in the 1970s to support a sterile hybrid *Hymenophyllum* over many metres of rock-face; interestingly, he did not record *H. wilsonii* in the area, now easily found nearby. The triploid is in the process of being named *H.* × *lovisiae* after its finder. – FJR] Other ferns of note were a young *Culcita macrocarpa* above head height and a small colony of *Elaphoglossum semicylindricum* growing on mossy *Erica* trunks and rocks. Although most polypodiums were *P. macaronesicum*, some seemed to be *P. vulgare* and this was confirmed later by Bruce. Just below the top but still on the northern side about five young *Dicksonia antarctica* were found. We had lunch at the highest point (about 1,400 metres) looking out over the southern side of the mountain into the Ribeira Brava valley. Sadly, an extensive fire had burned much of the vegetation on the southern slope. Once back down some of us enjoyed a well earned cup of coffee at the viewpoint.

We drove down from Encumeada towards São Vicente, making a short stop at the gardens surrounding the Forestry House. Here there was a fine display of *Dicksonia antarctica* and other indigenous ferns of Madeira. We continued on to the seaside village of Seixal, having splendid views over the north coast. During a brief stop we detected *Asplenium marinum*, *Adiantum capillus-veneris* and a number of very healthy *Cyrtomium falcatum*.

The next stop was Ribeira Funda. Until quite recently this little village could only be reached by climbing several hundred steps starting from the coastal road. Fortunately a new tunnel and road were built, allowing the village to be reached by car. The main interest here was several plants of *Asplenium hemionitis*, young plants bearing sagittate fronds and older plants with star-shaped fronds. We followed a narrow path between vineyards, the walls typically being covered in the common *Polypodium macaronesicum* and *Davallia canariensis*. We than added *Adiantum reniforme*, *A. raddianum*, *Christella dentata*, *Diplazium caudatum*, *Woodwardia radicans* and a single *Arachniodes webbiana* to our list. Of further interest were both selaginellas, *S. kraussiana* and *S. denticulata*, growing side by side allowing useful comparison. Sadly, this village, which used to be a famous for its magical ferny walls, has been largely ruined by the use of herbicides. *Polypodium* and *Davallia* appear to be able to survive but the more delicate ferns such as *Adiantum reniforme*, which used to be so widespread, have been relegated to the edges of the village.

Wednesday 23rd **Liz Evans**

On another bright and cloudless day we drove down the hill from the hotel to the supermarket to buy lunch, before driving back up past the hotel, to a parking place about two miles west of Encumeada by the side of the ER-110 near Lombo do Muro. We crossed the road and got on to a levada in glorious sunshine, at which point Andrew asked if we all had our waterproofs with us – not because of the risk of rain, but because in several places along the path water cascaded from above and it was not possible to pass without getting a bit wet. However, it was so warm that we dried out again almost straight away. The path climbed steeply uphill with good views across the island – from the ridge of the mountain it was possible to see the sea on both the north and south sides of the island. At the summit we met up with the Levada da Serra and proceeded to walk alongside it.

The main fern of interest on this day was the possible hybrid between *Polystichum falcinellum* and *P. setiferum*, *P.* × *maderense*; however, the first fern of note was *Asplenium*

scolopendrium, which is uncommon in Madeira. As the path climbed higher we were surprised to encounter lingering patches of snow that had still not melted – despite it being shirt-sleeves weather! In some places the levada had become blocked with branches and leaves causing the water to overflow onto the path, and where this had happened we cleared away the debris. We found a lovely warm but shaded lunch spot by the side of the path, and after our picnic some members decided to walk slowly back down to the van while the rest continued up the path.

There were more waterfalls over the path, which were slightly more interesting to negotiate our way around, but once we got past these we were back into the warm sunshine again. Just before the point where we decided to turn back we saw the first *Dryopteris maderensis* of the day. On the way back, we spotted some *Hymenophyllum tunbrigense* and also [what has proved to be – FJR] *H. wilsonii* – quite a long time was spent at this spot searching for the possible hybrid but no conclusion was drawn. Another species of note was *Huperzia suberecta*, bringing the total number of species spotted at this site to twenty-six. We made our way back down to the van and headed off to do some 'auto ferning'.

The first site was on the road just down from the hotel at Pousada Vinhaticos, and the star fern here was an enormous *Asplenium lolegnamense*. We had a quick look around and on this wall alone spotted eleven species. *Notholaena marantae* was way above head height and so we went on to another site a bit further down the road in Serra de Agua where it was possible to inspect this fern at eye-level. There were many places where it was possible to climb up steps from the roadside into the terraces on which the local people grow vegetables, and these places were generally well populated by ferns. The light changing over the mountains and the steep-sided valley reminded us of the Lakeland hills, and as it began to get cooler we decided to go back to the hotel for a drink before dinner. All in all, another lovely day.

Thursday 24th **Barry Colville**

After breakfast we headed north from Encumeada to the café and shop just west of São Vicente where we bought our picnic lunch – very good value for money. We then attempted the road to São Jorge, which we had been informed was open, but were again frustrated by the road's closure. A large crane parked in the middle of the narrow road was sculpting the subsoil from the area of a recent land-slide. We turned to plan B, and explored the area above Ponta Delgada and Boa Ventura along the Levada de Cima until it reached its source in the Ribeira dos Moinhos. We crossed this with some difficulty, getting our feet wet crossing the dam. We then walked steeply uphill towards another levada and stopped for lunch. Ann and Barry gave up at this point, slowly returning to the van, shortly to be joined by Mattan and Sarah.

A smaller group decided to continue on up the wooded gorge. Some interesting route-finding and energetic boulder-hopping, easier for those with longer legs, was required to get further upstream to reach what looked like an old mining area, now totally overgrown. It was a ferny paradise with thick carpets of *Selaginella kraussiana* to walk on and rocky outcrops and walls dripping with abundant *Trichomanes speciosum*, etc. Temporarily losing the 'path' in the riverside jungle, it was refound where the shrubbery of wild ginger (*Hedychium gardnerianum*) had been cut back. A lot of *Hymenophyllum tunbrigense* was seen, with more *Trichomanes speciosum* growing epiphytically up tree trunks. Eventually time ran out and the group retraced their steps back down the valley.

The group were reunited at 4 p.m. and headed to the village café, Bar Pedras, which was convenient for finding more ferns including the introduced *Diplazium esculentum*. Ponta Delgada was our final site for the day, where we admired *Asplenium marinum*, *Adiantum capillus-veneris* and *Cyrtomium falcatum* growing on the sea wall.

Friday 25th **Alison Evans**

We could hardly believe our luck when we had yet another glorious sunny morning, and our luck held out when we found a parking space at the very busy centre of Ribeiro Frio. We set

off along Levada Furado amongst several groups of people from coach parties, hurrying to see what they could in the brief time allowed them. The levada itself seems to have been rebuilt in concrete quite recently, so the walls were devoid of ferns, but there were plenty of 'old friends' to revise on the banks above the levada and below the path, including *Adiantum raddianum*, *Arachniodes webbiana*, *Asplenium monanthes*, *A. onopteris*, *Diplazium caudatum*, all four *Dryopteris* species, *Hymenophyllum tunbrigense*, *Pteris incompleta*, *P. tremula*, *Stegnogramma pozoi* and *Woodwardia radicans*. A rock in the middle of the path was home to a small plant of *Trichomanes speciosum*; rather a surprising place to find it. A little further on, Mattan spotted a colony of *Ophioglossum azoricum* in the grass to the left of the path. The fertile spikes were just beginning to develop. The sight of several pteridologists kneeling with faces and cameras in the grass obviously amused the serious walkers passing us by. Further on still, we walked along the levada side round the head of a gully. When we reached the next wide stony gully we stopped to have lunch. Andrew discovered that he had forgotten to pack his, but the rest of us made sure he didn't starve.

Just four of us, Andrew, Bruce, Liz and Alison opted to take the longer route back and do the circular walk via Ribeiro Poço do Bezerro. The path went steeply uphill through drier countryside, so we recorded this as a separate site. Here we began to see more *Polypodium vulgare* (confirmed by Bruce) as well as *P. macaronesicum*. *Dryopteris aitoniana* seemed to be absent, but we did see *Asplenium anceps* in addition to *A. monanthes*, and on the side path to a pool on the river we found *A. trichomanes*. We met a couple from Cumbria who were interested in what we were looking at, and we realised that we were surrounded by a suite of ferns that might be found in a Cumbrian valley, as we pointed out the lady fern, hard fern, soft shield fern and hay-scented buckler fern to them. Returning to the main path, we continued to climb until we came out on to a grassy area, the ground dotted with lovely little pink-purple *Romulea columnae* flowers, but no ferns. A large wooden arrow in the ground marked the way to the start of an undulating stone road down through the forest, where we started to see woodland ferns again. An unusual *Polypodium* caught Bruce's eye, and later microscopical examination revealed characteristics of *P.* × *mantoniae*. [Clearly a hybrid, this plant is almost certainly the cross between *P. macaronesicum* and *P. vulgare* (*P.* × *font-queri* nothosubsp. *encumeadense*), previously only recorded from its type locality, the roadside wall at the saddle of the Encumeada pass. – FJR]

Below the ER-103 road the habitat changed again, *Dryopteris aitoniana* being present but not *D. maderensis*. *Asplenium trichomanes* was common on the walls, and a plant of *Anogramma leptophylla* was spotted on the wall outside the Ribeiro Frio garden. We found some of our group in the garden, admiring the *Culcita macrocarpa* planted there, and several plants of *Polystichum drepanum*.

We collected the remaining members from the coffee shop and drove up to Pico do Arieiro to visit one final site. It was quite chilly on the top, with snow still lying by the road and thick clouds swirling below us, so not everyone set off down the treacherous scree. This area had been burned in the last year or two and in places was covered with the blackened skeletons of bushes. Life was stirring under and around the rocks but it took some patience to find the ferns hidden there. *Asplenium obovatum* subsp. *lanceolatum*, *A. onopteris* and *A. trichomanes* were noted, as well as *Cystopteris diaphana*, *Dryopteris affinis*, *Polypodium macaronesicum* and *Polystichum falcinellum*. As the going got tougher, more people turned back, leaving Andrew, Bruce, Peter and Alison to fight their way through the charred bushes to see the object of the visit, *Asplenium septentrionale*. We felt it was worth the effort to see this brave little fern unfurling new croziers in the shelter of cracks in the rocks. When we finally reached the top again we realised we were covered in soot from the burnt vegetation. Lizzie had built a snowman on the roof of the car, but unfortunately it slid off as we turned on to the road, so we couldn't emulate the locals who were driving home with their intact snowmen on the bonnets of their cars. With a count of 34 taxa, possibly 35, for the day we had plenty to talk about on the way home.

Saturday 26th – Finale **Bruce Brown**

We left the hotel in good time to drop Mattan off for an earlier plane, which left the rest of us some time to return to Santa Cruz. We relaxed under the palm trees by the seafront then looked in the fish market to see what we had been eating during the week. Colourful *Bougainvillea* was flowering on wires stretched across the river and an alien fern, *Pteris vittata*, was spotted on an adjacent wall. It was now time for us to check in and say goodbye to Madeira. We record our thanks to Andrew for guiding us around this delightful island and sharing his fern knowledge with us. Our total for the week was 63 species and four hybrids.

Ferns seen during Madeira meeting, March 2011

	19th			20th			21st			22nd		23rd			24th				25th			
	Santa Cruz	Below Aguas Mansas	Around Porto da Cruz	Ravine	Alagoa	Levada dos Cedros	Levada do Caldeirao Verde	Ribeira Silveira	Cruzinhas	Pico Meio Encumeada	Ribeira Funda	Levada da Serra	Around Pousada Vinhaticos	Serra de Agua	Levada de Cima	Ribeira dos Moinhos	Bar Pedras (above P. Delgada)	Ponta Delgada (sea wall)	Levada Furado	Ribeiro Poço do Bezerro	Below ER-103	Pico do Arieiro
Adiantum capillus-veneris	+					+			+						+			+				
A. hispidulum			+																			
A. raddianum						+	+		+		+				+	+			+			
A. reniforme											+				+							
Anogramma leptophylla		+							+				+	+	+						+	
Arachniodes webbiana															+				+			
Asplenium aethiopicum															+	+						
A. anceps							+					+								+		
A. hemionitis											+					+						
A. lolegnamense		+											+	+								
A. marinum																		+				
A. monanthes				+	+	+	+	+	+	+		+			+	+			+	+	+	
A. obovatum subsp. lanceolatum		+																				+
A. onopteris		+		+		+	+	+		+		+	+		+				+	+	+	+
A. scolopendrium												+										
A. septentrionale																						+
A. trichomanes												+	+	+						+	+	+
Athyrium filix-femina					+	+	+	+	+	+		+			+	+			+	+	+	
Blechnum spicant				+	+	+	+	+	+	+		+			+	+			+	+	+	
Christella dentata			+	+		+			+		+			+	+							
Cosentinia vellea	+																					
Culcita macrocarpa				+						+												
Cyathea cooperi	c		+	+	+	+	+												+			
Cyrtomium falcatum															+			+				
Cystopteris diaphana				+		+	+	+	+	+		+	+		+	+			+	+	+	+
Davallia canariensis		+		+	+	+	+			+	+	+	+	+	+				+	+	+	
Deparia petersenii						+	+		+						+	+						
Dicksonia antarctica										+									+			
Diphasiastrum madeirense										+												

	19th			20th			21st			22nd		23rd			24th				25th			
	Santa Cruz	Below Aguas Mansas	Around Porto da Cruz	Ravine	Alagoa	Levada dos Cedros	Levada do Caldeirao Verde	Ribeira Silveira	Cruzinhas	Pico Meio Encumeada	Ribeira Funda	Levada da Serra	Around Pousada Vinhaticos	Serra de Agua	Levada de Cima	Ribeira dos Moinhos	Bar Pedras (above P. Delgada)	Ponta Delgada (sea wall)	Levada Furado	Ribeiro Poço do Bezerro	Below ER-103	Pico do Arieiro
Diplazium caudatum				+		+	+	+			+				+	+			+	+		
Diplazium esculentum																	+					
Doodia caudata			+			+			+						+							
Dryopteris aemula				+	+	+	+	+		+		+							+	+	+	
D. affinis				+		+	+	+		+		+			+	+			+	+	+	+
D. aitoniana				+		+	+								+				+		+	
D. maderensis							+	+		+		+				+			+	+		
Elaphoglossum semicylindricum				+	+					+												
Equisetum telmateia															+	+						
Huperzia suberecta										+		+										
Hymenophyllum maderense								+														
H. tunbrigense				+	+	+	+	+		+		+			+	+			+	+	+	
H. wilsonii					+		+			+		+										
H. × lovisiae										+												
H. × cf. scopulorum							+															
Lycopodiella cernua																						
Nephrolepis cordifolia											+						+					
N. exaltata																						
Notholaena marantae													+	+								
Ophioglossum azoricum																			+			
Oreopteris limbosperma																						
Pityrogramma calomelanos			+																			
Polypodium macaronesicum		+		+	+	+	+	+	+	+	+	+	+	+	+	+			+	+	+	+
P. vulgare										+		+								+	+	
P. × font-queri nothosubsp. encumeadense																				+		
Polystichum drepanum							+															
P. falcinellum												+										+
P. setiferum						+	+	+		+		+			+	+			+	+	+	
P. × maderense												+										
Pteridium aquilinum		+	+	+		+	+	+	+	+	+	+	+		+	+			+	+	+	
Pteris incompleta				+		+	+	+		+		+			+	+			+	+	+	
P. tremula	+								+										+			
P. vittata	+																					
Selaginella denticulata		+				+	+		+	+	+	+	+	+	+	+			+	+	+	
S. kraussiana				+			+	+	+		+				+	+			+	+		
Stegnogramma pozoi				+		+	+	+		+		+	+		+	+			+	+	+	
Trichomanes speciosum				+		+	+	+		+						+			+			
Woodwardia radicans				+		+	+	+		+	+	+			+	+			+	+		

EXMOOR – 3-5 June (Leader: Paul Ripley) — Pat Acock

Friday 3rd – Greencombe, Porlock, Somerset

We met at 2.30 at Joan Lorraine's beautiful garden, Greencombe. We parked in the lane leading to the house, greeting a few new members and guests before going on to meet Joan and her helper for the day, Pat Wolseley. Joan had arranged a number of graded maps of the garden and gave us a brief talk. We split into a number of small groups dependent on interest and wandered the many paths. I especially looked out for the New Zealand ferns and *Polystichum* species and cultivars. The garden was even more lovely than I remembered from our 2003 visit, with many additions to the fern collection, in particular interesting polystichums and blechnums; some of the southern hemisphere blechnums had colonised the woody banks in lightly shaded areas of the garden. Joan is so patient despite the frustrations of her immobility and it was a great joy to spend time with her, talking about the garden and her plans for it. We thanked Joan once again, not only for being so willing to open the garden especially for us but also for going to the trouble of putting on one of her spectacular teas.

Before a briefing and dinner in the centre hotel, the Lorna Doone in Porlock, we were led by Roger Golding down a narrow lane behind the hotel to explore the walls and banks bordering the lane. *Asplenium adiantum-nigrum* was particularly abundant.

Saturday 4th – Porlock Common, Downscombe, Simonsbath, Dunkery & Horner Wood, & Hawkcombe, Somerset

On a bright sunlit Saturday we met up in the car park in Porlock to rationalise cars and view maps and the slightly revised timetable. The first port of call was opposite a small pull-in on Porlock Common (21/8460 4588). We were pleased to have Helena Crouch, the BSBI recorder for North Somerset, with us and, to the delight of many newer members in particular, she showed us small plants of *Botrychium lunaria* growing in short grass on the roadside bank. Other ferns seen, mostly in a drainage ditch, were *Blechnum spicant*, *Oreopteris limbosperma*, *Athyrium filix-femina*, *Dryopteris affinis* and *D. dilatata*.

photo: H.J. Crouch

***Botrychium lunaria*, Porlock Common**

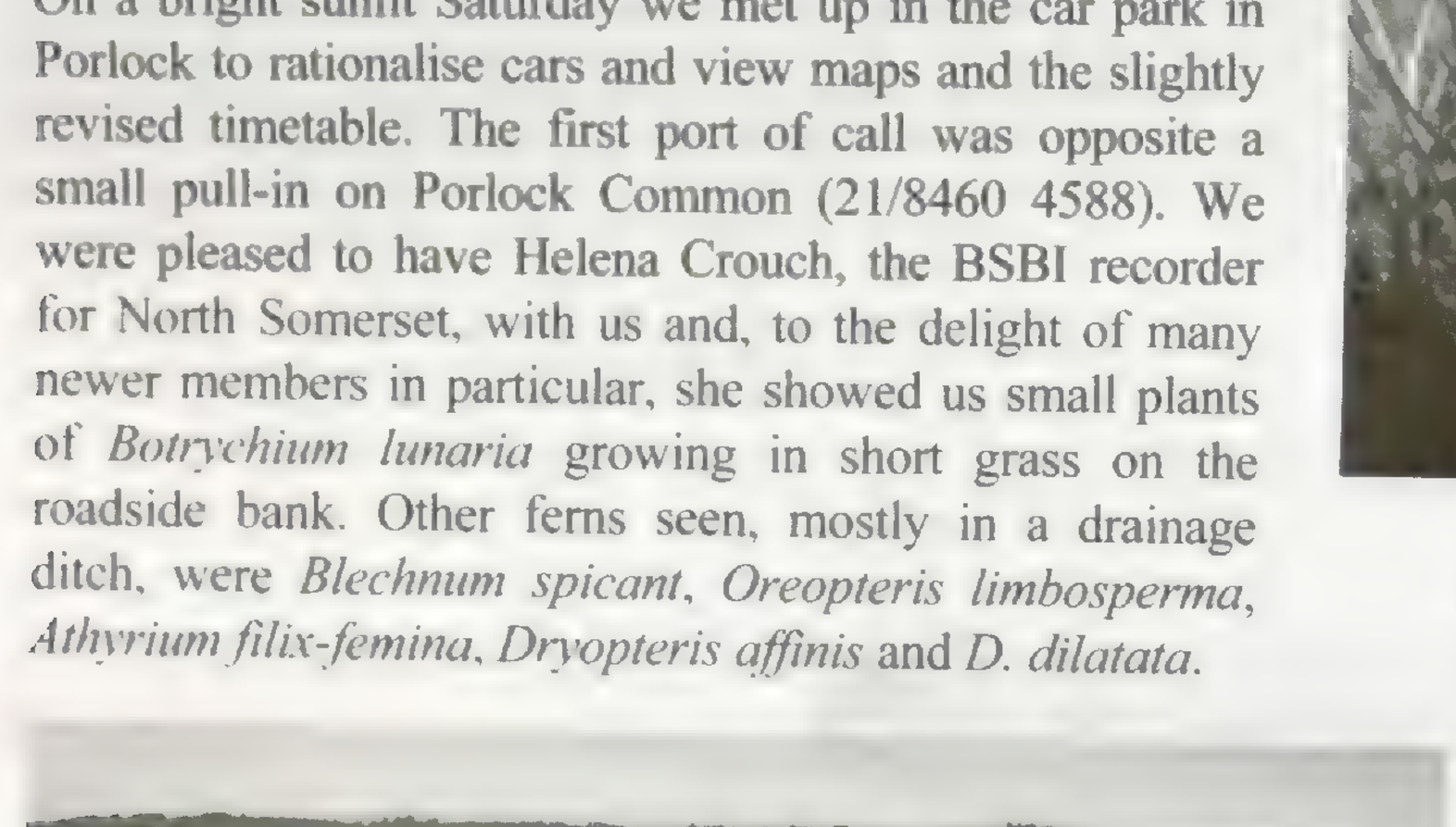

photo: A.M. Paul

***Botrychium* site, Porlock Common**
Lindsey Holleworth, Helena Crouch, Pat Acock, Andrew Tolman, Jonathan Crowe

Further on (21/8277 4007) we stopped in a lane with steep banks to see typical Exmoor ferns and added *Dryopteris filix-mas*, *D.* × *complexa*, *Asplenium trichomanes* subsp. *quadrivalens*, *A. scolopendrium*, *A. adiantum-nigrum*, *Polystichum setiferum*, *Polypodium vulgare* and *P. interjectum*.

After a good search and much discussion of the polypods we moved on to

Downscombe (21/8416 3949) to examine a farmyard wall bearing *Asplenium ceterach* and *A. ruta-muraria*.

At Lime Combe just outside Simonsbath (21/7646 3927) Paul led us to a site he had found for *Phegopteris connectilis* that was new to Helena; she subsequently discovered from an old letter that it was introduced at this site in *c.*1960. After lunch in Simonsbath we were shown *Cystopteris fragilis* on a wall by the public conveniences (21/7738 3943) and sharp-eyed Roger Golding called us over to see a superb *Dryopteris cambrensis* by the streamside.

photo F.J. Rumsey

Barrie Stevenson, Matt Stribley & Roger Golding at Lime Combe, Exmoor

An adventurous trio had disappeared in search of *Phegopteris connectilis* at a site enticingly named Raven's Nest. Undaunted by the onset of driving Exmoor rain, they set off across an apparently endless stretch of moorland. The walk was soon enlivened by a frond of *Botrychium lunaria*, and another, and more: altogether hundreds of astonishingly large plants were seen from 21/770409 to 774409. Raven's Nest (21/7775 4094) is a deep rocky cleft on the south side of the upper Exe valley, almost invisible until it is reached. After the bleak moor it presented an unexpected, sheltered verdant oasis. Ravens flew overhead and at the bottom of the combe swathes of *Phegopteris connectilis* could be seen on both sides of the gully, a fantastic sight. Abundant *Oreopteris limbosperma*, *Athyrium filix-femina*, some *Polypodium interjectum* and a splendid *Dryopteris affinis* were also seen.

photo: F.J. Rumsey

***Dryopteris aemula*, East Water Valley**

A couple of hours were spent in the East Water valley (21/8974 4302), part of Dunkery and Horner Wood Nature Reserve. Few people strayed far from the road but superb *Dryopteris affinis* and statuesque *D. cambrensis* were dotted about under the dappled birch shade near the river. Wandering along the road we were delighted to find a great deal of *D. aemula*, together with *Oreopteris limbosperma* and the ubiquitous *Blechnum spicant.*

Whilst most of the group continued exploring East Water valley and went for tea, Helena took a small party to see *Huperzia selago*, recorded at Dunkery in Murray's *Flora of Somerset* (1896). At what seems an unlikely site this species persists in a wet stony flush on the north side of Dunkery Hill (21/9008 4261 and 9009 4260). Forty-five plants were counted, all growing around the edge of *Molinia* tussocks rising from the wet substrate.

We all met back at Porlock for a walk to the delightful hamlet of Hawkcombe, where *Polystichum setiferum* was seen by the river. Paul, having recently had the plaster removed

from his broken ankle, was the only one who found the ascent to some rocky promontories near the top of the hill difficult. Fred Rumsey and Helena led us to *Hymenophyllum tunbrigense* and Matt Stribley quickly found a new site for the *Trichomanes speciosum* gametophyte (21/88033 45731), only the fourth record for Somerset. The downside for Matt was that since he had a torch he spent most of the rest of the time showing people the crevice and in standing still attracted large numbers of tick nymphs, a few of which took up residence on his eyelids.

The evening saw the party take over the larger part of the Lorna Doone restaurant where we had a most convivial time.

Sunday 5th – Watersmeet (east of Lynton) & Heddon Hall (Parracombe), Devon

Sunday dawned cloudier and cooler. We met in the car park at Watersmeet (21/744487) and Martin Rickard led a successful hunt for *Hymenophyllum tunbrigense* on the first promontory of the site where the East Lyn River and Hoaroak Water meet. The gametophyte of *Trichomanes speciosum* was found in a cave opposite Watersmeet House. A hardy few, directed by Martin, scrambled along the river's edge in the hope of finding *Hymenophyllum wilsonii*, but to no avail; Martin had found it here in the past but the dryness of the season and the nature of the terrain compounded the difficulty of searching for it this time.

After lunch we had been invited to Heddon Hall, beautifully set in the valley of the River Heddon in Parracombe. The house had been restored during the 1980s and Jane Keatley and her husband began the garden in 1987. Many people from the world of gardening have had an input to the garden, including Carol Klein and Roy Lancaster. Jane has handed the house and garden over to her daughter Juliet, who is continuing to extend and improve it with Jane's continued help. The river runs through the lower garden, an idyllic place for ferns that has been exploited to this end with mostly native ferns but also large colonies of *Matteuccia struthiopteris* and *Onoclea sensibilis*. Within the walled gardens were many herbaceous plants and shrubs but against the southern wall there was a most spectacular border of fern cultivars. Growing at probably their optimum condition, these choice *Polystichum* and *Athyrium* cultivars mixed with other species formed the best border of ferns that I have seen.

photo: P.J. Acock

***Dryopteris affinis* agg. at Heddon Hall, Parracombe**

A cream tea of generous proportions provided by Jane and Juliet allowed us time to thank our leader Paul Ripley, who had visited the area twice in preparation (once with a broken ankle), for his meticulous planning of the weekend. Those that did not have to return for work had a late dinner together. Disappointed not to have had the time to fit in the only *Asplenium obovatum* subsp. *lanceolatum* site in Somerset, two nocturnal pteridologists were observed leaving the hotel just before midnight and sighted about 50 plants by torchlight on Porlock Hill. Helena and Fred recorded several hundred plants here in daylight on their way back from a successful search east of Badgworthy Water for *Ophioglossum azoricum* at Land Combe – the only site in Somerset. In the afternoon, Alison Paul discovered a (possibly new) Devon site for *A. obovatum* subsp. *lanceolatum*, on stone-faced hedgebanks east of Watersmeet, just north of Wilsham (21/755485 and 21/754487).

The leader would like to record his thanks to Helena Crouch and Martin Rickard who gave much help with the sites and garden visits.

SOUTH-EASTERN USA – 14-27 June

Introduction

Pat Acock

Naud Burnett approached me on one of our recent tours with the Hardy Fern Foundation and said that he was willing to do a reconnaissance for a meeting in south-eastern USA taking in the Appalachian Mountains. I had always wanted to visit this area since reading Herb Wagner's work on the Appalachian spleenworts so I was more than enthusiastic. Naud and Wim worked out the logistics, finding just the right gardens, wild fern sites and places to stay, and contacted experts in both field and garden who would guide and interpret for us across six US States.

Two of the gardens visited – Birmingham Botanical Gardens and the Ralph Archer Woodland Garden at Whitehall Manor – serve as test sites for the Hardy Fern Foundation. The Foundation's satellite test gardens[1] are located in diverse climates throughout the US from Florida to Alaska and Maine to California. Selected hardy ferns are tested in different regions to determine their adaptability and ornamental garden value in various climates. Data collected at these gardens is sent to Michelle Bundy at HFF for analysis.

The geology of the region[2] is mainly of Palaeozoic origin, principally with Appalachian folded belts to the north giving way in the north-west to the stable North American Craton through a subduction boundary, and to the south to the passive coastal plain, also of Palaeozoic origin. We were often on calcareous rocks but interestingly also at boundaries between calcareous and acidic rocks, which led to interesting plant groupings.

The climate[2] is affected by the tropical airstream from the Gulf and is described in the southern three states as permanently humid with hot summers and to the north of this as permanently humid with warm summers. It was this humidity that we encountered on our arrival.

Tuesday 14th – Georgia Perimeter College Fern Garden & Don Jacob's Garden, Atlanta, Georgia

Martin Rickard

Given the unpleasant side effects of jet-lag, quite a few of us arrived in Atlanta 24 hours earlier than necessary. Of course we could not afford to totally waste the extra day so we visited the city's Natural History Museum. Passing the time of day with local volunteers they soon realised why we were there! They had only one piece of advice – we must go and visit George Sanko at the Georgia Perimeter College Garden on the outskirts of town. Curiously enough that was the first site on our itinerary for Tuesday!

The locals were right! What a garden! What a fern garden! Rarely do you ever see so many unusual ferns thriving in one place. On arrival we soon realised that the garden was the 'baby' of George Sanko. He greeted us surrounded by a host of unpaid volunteers who as a team maintain the garden to a very high standard. All were available to answer our many questions.

Initially I was blown away by the beds of xeric ferns, all beautifully grown, however, it was explained that quite a few of the more tender species were only planted out for the summer. During our visit the whole region was basking in temperatures of over ninety degrees Fahrenheit but over winter it can be very cold. Some of the ferns I had never heard of, such as *Cheilanthes yavapensis*. Other beautifully grown more familiar plants included *Cheilanthes buchtienii*, *C. wrightii*, *C. eckloniana* and *Astrolepis sinuata*. In a swamp garden it was a pleasure to see *Woodwardia areolata* thriving with a number of species of *Sarracenia* along with various osmundas.

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[1] Laskowski, J. *et al*. (2009) Directory of fern gardens, nurseries and reserves in the United States and Canada. *Hardy Fern Foundation Quarterly*. 19(3): 1-39.

[2] Brouillet, L. & Whetsone, R.D. 1993. Climate and physiography. In: *Flora of North America north of Mexico*. Vol. 1. Introduction. pp.15-46.

The main fern area was under woodland, where ferns were planted in a very attractively laid out semi-natural system of island beds. Of great value to all the visitors were the wonderful clear labels placed in front of every plant. There was not always unanimity about the names – but that's half the fun! A lot of ferns were new to me, with highlights being *Coniogramme intermedia* 'Yoroi Musha' (pinnae dark green and deeply lacerated), *Pyrrosia porosa*, *Lepisorus bicolor* and a dwarf crested lady fern dubbed 'Lady in Lace'. Better known, but rarely seen elsewhere, were *Arachniodes miqueliana*, *Pyrrosia lingua* 'Variegata' and *Coniogramme gracilis*.

We were called to partake of a packed lunch amongst the ferns. This was a very pleasant break as it gave us a chance to mingle with the numerous local volunteers and catch an occasional word with George Sanko, the inspiration behind the whole venture. Space does not permit a fuller description – far better to make the effort to go to Atlanta and see it for yourselves!

While in Atlanta we had time for just one more garden. It was more a plant collection than a garden but a veritable plantsman's paradise. This was the home of Don Jacobs and formerly of Eco-Gardens – a nursery specialising in native plants. We did not have long here and Don kindly led us around some of the highlights of his collection. Not all were ferns of course and I was disappointed that we were too late for many of the flowering plants. Don's collection of slipper orchids looked outstanding – judging by the leaves! Easily the most interesting plant here for me was *Thelypteris palustris* 'Pufferae' – the crested marsh fern. I do not think a crested form has ever been spotted in the UK, so this North American treasure takes on extra significance. We saw a very small plant in a Philadelphia garden a few years back but here there was more than a square yard. Elsewhere, *Pyrrosia polydactyla* was looking good, as was *Lygodium palmatum* (seemingly naturalised) and *Asplenium rhizophyllum*.

photo: J. Acock

Don Jacobs' Garden, Georgia
John Scott, Don Jacobs, Martin Rickard, Pat Acock, Pat Riehl, Graham Ackers

After 45 minutes it was back to the bus for the 152-mile journey to our overnight stop in Birmingham, Alabama.

Wednesday 15th – Birmingham Botanical Garden & Huntsville Botanical Garden, Alabama

Graham Ackers

Birmingham Botanical Gardens, formed in 1960, prides itself on being Alabama's largest living museum, with more than 10,000 different plants within 25 garden areas in 67 acres. However, although we did get a chance to see some of the 'living museum' areas, our visit was of course focused on their ferns. Our host for the morning was Dan Jones, who walked us to the Fern Glade, en route describing various aspects of the gardens, in particular recalling the devastating effects of a storm in 1991 that ruined 1,500 trees and many rhododendrons.

The Fern Glade is a beautifully laid out woodland area, with its own stream and attractively fashioned beds bounded by sympathetically designed walkways with imprinted fern and leaf designs. The glade was started around 1970, and is maintained and enhanced by volunteers from the Birmingham Fern Society, many of whom welcomed us on our arrival at the glade. The society was started in 1975 and had 80 members in 1977 (but rather fewer now). The ferns in the garden numbered about 175 taxa, some of which were laid out thematically, for example 'Alabama Native Ferns' and a 'Synoptic Fern Garden' (a collection of ferns that will grow in central Alabama arranged by genus). Dan mentioned some of the taxa that do well in Alabama, including *Dryopteris stewartii*, *D. championii* and *D.* × *australis*. In their attractively produced leaflet, 15 ferns are listed as being easy to grow in the Birmingham area. However, some other taxa are more problematic, particularly if exposed to late frosts and cold spells such as the one experienced in January 2011.

Coincidentally, on the day of our visit the Birmingham Fern Society were staging their 35th Annual Fern Show and Sale, which we were allowed to preview before our departure for lunch and our second stop of the day, which followed a two hour journey north on Interstate 65 to Huntsville.

At the Huntsville Botanical Garden, we were met by our guide Stu Clifton, who initially gave us a little history of the garden, which was only founded in 1988. In some ways this visit echoed our morning experiences. We were escorted to their Fern Glade, maintained by volunteers from the Huntsville Fern Society, set up in 1993, and now with 24 members. Once again we were warmly welcomed by several of the volunteers/members with whom we could discuss the plants and exchange views. The ferns, of which there were about 150 taxa, were laid out in attractively designed beds containing striking mass plantings. Common south-east native species were much in evidence. Imaginatively, a colony of *Pleopeltis polypodioides* had been attached to a tree trunk. There were numbers of *Ophioglossum vulgatum* and *Botrychium virginianum*, genera that most fern gardeners find difficult to establish. Non-natives such as *Dryopteris pacifica* and *D. bissetiana* were also well represented. The whole of this area of the garden was wooded, and the Fern Glade merged into a Nature Trail, with more ferns planted along a stream. Walking the Nature Trail one passed the National *Trillium* Collection with an astonishing 6,000 taxa! Sadly of course, we were too late for their flowering. Having had our fill of the ferns, we explored the rest of the garden, including an impressive butterfly house, open to the elements, but having the inhabitants contained by a canopy of fine mesh netting. Later in the afternoon our hosts kindly put on a barbecue for us in their Murray Hall. On finally leaving the gardens, we journeyed north to our hotel via the Huntsville NASA Space Centre to view and photo-graph some enormous replicas of space hardware.

photo courtesy S. Olsen

BPS & HFF tour members with their hosts at the Huntsville Botanical Garden

Thursday 16th – Cane Creek Canyon Nature Preserve, Alabama **Sue Olsen**

Today's destination, Cane Creek Canyon Nature Preserve, was the first of a number of scheduled trips to field sites and although the weather was sweltering and we were bathed in humidity, we were all eager to see an assortment of native ferns in situ. We were not disappointed, as some 19 fern species greeted us during our hike including the day's hoped-for prize, the filmy fern *Trichomanes boschianum*. We were welcomed by the owners, Faye and Jim Lacefield, who have preserved this 413-acre site as a sanctuary to protect its varied and unique habitats. The area has some 15 miles of trails and is open all year around and has recently been granted well deserved permanent protection by the Alabama Nature Conservancy.

Our hike took us down to the canyon floor, passing en route the great plant diversity for which the Preserve is justly renowned. References laud the great variety of tree species as well as shrubs, particularly azaleas and 'the flashier flowers of early spring'. All of this is possible because the topography was shaped by the lifting of the ocean floor, which created great sandstone walls, carved cliffs and shaped waterfalls and created microclimates that protect and encourage the growth of the Preserve's broad collection of native plants.

The Christmas fern, *Polystichum acrostichoides*, was the dominant fern of the forested site and was to be the ubiquitous native fern of the entire two-week foray. Its evergreen fronds greeted us with their 'acrostichoid' fertile tips. Favourite finds included the walking fern, *Asplenium rhizophyllum*, but even better, a climb up to view permanently frost-free crevices in the canyon walls brought us to a luxurious spread of *Trichomanes boschianum*. Meanwhile, as our enthusiasm and cameras were focused on this highlight of our wild fern sightings, John Acock, our specialist in outstanding nature photography, discovered a small rat snake quietly stretched out and observing us from a nearby branch. To the best of my knowledge this was the only snake we found on the trip.

We continued along a gentle downhill trail, heading for another rock outcrop where we scrambled up in the hope of finding signs of *Vittaria appalachiana*. This is a species that never develops beyond the gametophyte stage and is not exactly easy to distinguish. Armed with ID info and with Michelle Bundy wielding a helpful torch, we searched the walls but truth outweighed optimism and sightings were not confirmed.

We retreated back to the trailhead and enjoyed a delightful picnic before bussing on north through rural Alabama with its corn, cotton and wheat fields and depressing sights of great recent tornado damage. Our night's lodging was at The Best Western Smoke House Lodge in Monteagle, Tennessee.

Friday 17th – Shake-a-rag Trail, Monteagle, Sewanee Natural Bridge State Park & Tennessee River Gardens & Nature Preserve, Chattanooga, Tennessee **Michelle Bundy**

Friday's agenda was packed full of fabulous things to see! Our first stop was the Shake-a-rag Hollow Trail. Back in the 1920s and '30s this hollow was home to bootleggers minding their stills of bubbling moonshine. If authorities were spotted they would shake a rag in the air to alert their partners in crime. We did see one old rusty still.

The trail itself is about a three-mile round trip. It is a fairly easy hike although there is a steep rocky traverse towards the end with an elevation change of about 300 feet. The trail wanders among boulders and big trees along the side of the mountain. The Civilian Conservation Corp originally built the trail in the 1930s, and in parts of the trail large old trees can still be found. It has remained virtually undisturbed by humans and as we found out, boasts an amazing diversity of wildflowers and ferns.

The first fern spotted was *Asplenium montanum*. Further on we saw *Iris cristata*, the state flower of Tennessee. As we continued I could hardly keep up, jotting down one discovery

after another, *Thelypteris noveboracensis* and *Polystichum acrostichoides*. We were all excited to see *Botrychium virginianum* but by midway through the trip this fern was old news. We were beginning to warm up, not from the exhausting hike but from the stifling humidity. We continued along to see *Asplenium platyneuron*, *A. rhizophyllum*, and one of my favourite flowering plants, *Goodyera pubescens*. Jose Aguirre spotted ferns in the gully below and scrambled down to find a large stand of *Osmundastrum cinnamomeum*. Further on we saw *Athyrium asplenioides*, *Dryopteris marginalis* and *Cystopteris protrusa*. An interesting find, new to most of us, was Indian cucumber root or *Medeola virginiana*, with its whorled leaves and star-like flower. This plant produces a crisp, edible tuber that smells and tastes like cucumber. Midway along the trail was a massive rock, dripping with *Polypodium*. After some discussion, Martin determined this as mainly *P. appalachianum* with some *P. virginianum*. Beyond this we recognised beech fern, *Phegopteris hexagonoptera*. This medium-sized fern has attractive leaves and could be distinguished by its winged rachis. Near the finish of our trek we spotted *Asplenium rhizophyllum*, tightly nestled on a moss-covered rock. As we came to the end of the trail we encountered the steep rocky traverse. Everyone got safely to the top and admired the beautiful view of Green Valley before hopping on the bus.

Lunch was hosted at the lovely and rustic home of Betty Nelson, a lifelong friend of Wim Burnett. We walked down the road to Sewanee Natural Bridge State Park. Ever fern vigilant, we did see *Osmundastrum cinnamomeum*, *Osmunda regalis* and *Polystichum acrostichoide*s along the road. Natural Bridge is a 25-feet-high natural sandstone arch with a span of 50 feet set in a three-acre natural area in Franklin County. Here we were promised another glimpse of the very difficult to find *Trichomanes boschianum*. Our efforts were rewarded. In addition we saw *Asplenium montanum* and *Athyrium asplenioides*. One of the interesting things at this site was to see the *Osmundastrum cinnamomeum* growing out of sandstone crevices.

Our last stop of the day was the Tennessee River Gardens and Nature Preserve in Chattanooga in the heart of the Tennessee River Gorge. As we drove up the narrow, winding road into the preserve the first thing we saw was a 50-acre lake created from the backwater of the Tennessee River. There were many different fern species and cultivars here, all small and newly planted and far too many to list. It would be interesting to see this site five years from now. The most noteworthy fern was *Pleopeltis polypodioides*; many large clumps had been successfully transplanted onto the existing rock. We walked the trails and enjoyed the many man-made waterfalls that fed into a small trout pond from all corners of this planted area. Before saying our good-byes, Martin presented Bob Caldwell with Sue Olsen's *Encyclopedia of Garden Ferns*. He was delighted to receive it.

This outstanding day was topped off with a delicious dinner at a local restaurant with the compliments of Naud and Wim. Good food, good friends, more ferns to look forward to. What could be better?

Saturday 18th – Great Smoky Mountains National Park, Tennessee **Pat Acock**

As the coach had to refuel, we took the opportunity of having breakfast on the road. Setting off a little later we travelled many miles through the beautiful wooded Tennessee countryside, eventually following a long windy river course in the Great Smoky Mountains National Park. During a judicious rest stop in this river gorge with deciduous secondary forest dominated by *Liriodendron tulipifera*, we saw *Polystichum acrostichoides* and *Asplenium platyneuron*. It took another hour to reach the park visitor centre, where an enquiry as to whether or not they stocked the book *Ferns of the Smokies* by Murray Evans led to a stampede for copies.

Heavy rain set in as we left the centre, and as we were running behind schedule we drove on and omitted the walk in this part of the park. We arrived at the Natural Bridge State Park Resort and in the evening after dinner we walked around Hoedown Island.

Sunday 19th – Natural Bridge State Park, Kentucky **Pat Acock**

A seriously wet morning greeted us and the weather forecast gave tornado warnings in the county due west. Our ranger for the day, David Taylor, advised that it would not be sensible to attempt to go out until at least the thunder and lightning stopped and the forecast improved. Naud managed to hire the conference room and a projector. I showed my *Asplenium* triangle talk and Martin gave two presentations, one on tree ferns and the other on *Polystichum setiferum* cultivars and in particular his finding of one of the choicest of these, the Crawfordsburn fern, in Northern Ireland.

Richie Steffen prepared a talk for the afternoon. However, the weather improved dramatically and David took us to see what some of us had come a long way for, some of the allotetraploids of Herb Wagner's *Asplenium* Triangle[3]. We were rewarded on our climb by seeing many of the common ferns but as we reached the rocky outcrops at the top we could see we were in spleenwort country. *A. montanum* was soon spotted, then *A. bradleyi* was discerned and an obvious *A. pinnatifidum* was added to the list. There was much speculation as to whether or not we also had various back-crosses between these last two allotetraploids and their parents – *A. montanum*, *A. platyneuron* and *A. rhizophyllum*, all of which were present. Looking back through my many pictures I am sure there were good candidates for these.

We proceeded to the second sandstone Natural Bridge we had seen on this trip; this one has a span of 78 feet and is 65 feet high. After observing it from a vantage point we retraced our steps and descended via a different trail towards our lodge. We had only come down about 30 feet when we came across the most superb *A. pinnatifidum*. After photographing it I turned it over to see the whole underside covered in sporangia waiting to dehisce. Further along, the cliff side was covered in small plants of this species.

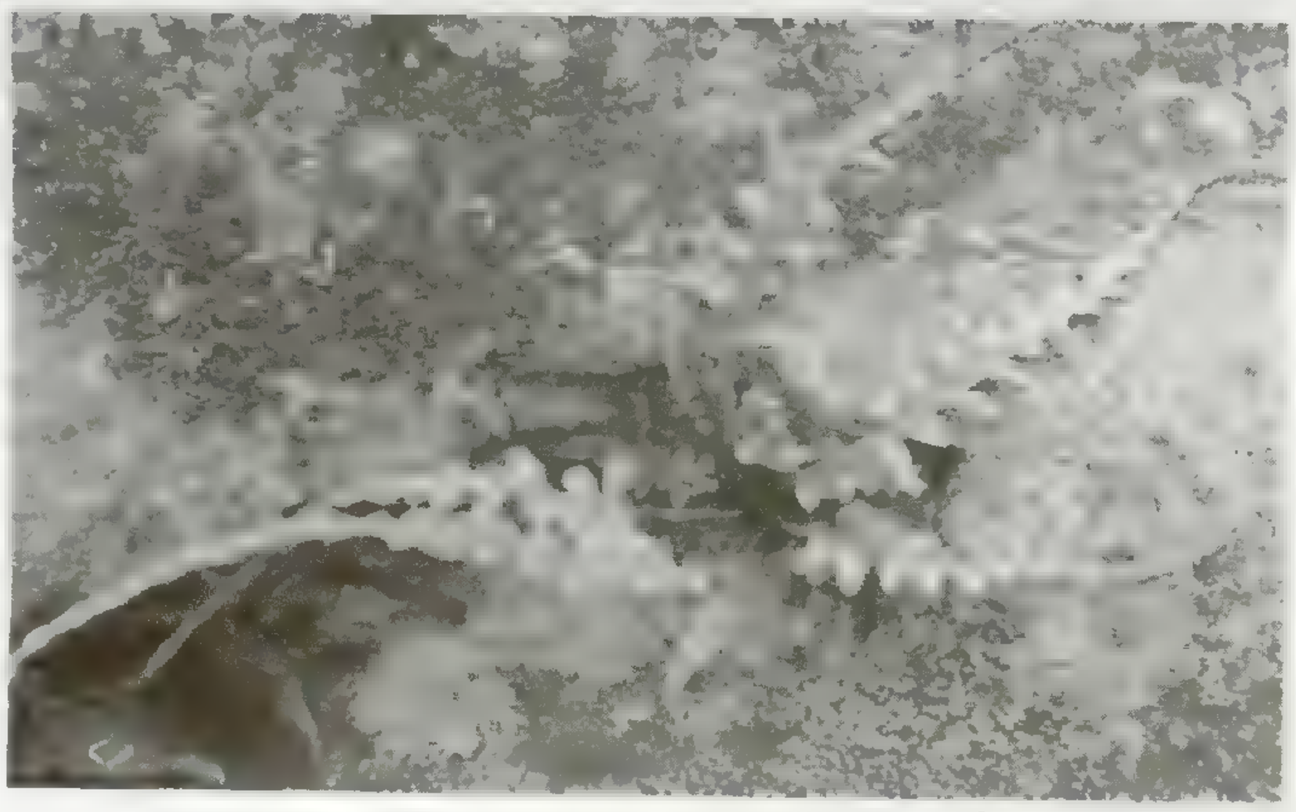

photo: P.J. Acock

Asplenium pinnatifidum
Natural Bridge State Park, Kentucky

After dinner we climbed up the Rock Garden Trail and besides all the common ferns of these woodlands we saw *Dryopteris goldiana*, very large *Asplenium rhizophyllum*, and *A. trichomanes*. This was one of those days I had been looking forward to for many years and I doubt it could have been bettered.

Monday 20th – Ralph Archer Woodland Garden at Whitehall Manor, Louisville, Kentucky
Pat Riehl

Still in Kentucky! After a while one forgot where one was. There was thunder and rain this morning for the two-hour drive to Whitehall Manor and Gardens. The house was built in the 1850s and was renovated in 1909 and 1970 when it changed owners. Presently it is part of the Historic Homes Foundation. Our destination was The Ralph Archer Woodland Garden, a Hardy Fern Foundation affiliated fern garden that was started in 2002 and covers about one quarter of an acre. Named after its creator, the garden is a tribute to the hard work and dedication of Ralph and volunteers. It has developed over time, with plants being added as the budget allowed. It can be thought of as two gardens: the older part planted under large trees with deep shade and dry soil, the newer garden with more light and water due to

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[3] Wagner, W.H. Jr. (1954) Reticulate evolution in the Appalachian spleenworts. *Evolution* 8: 103-118.

photo courtesy: M. Hayman

Graham Ackers & Kent Kratz at Whitehall Manor, Kentucky

being in a boggy area and away from trees. The same genera of ferns are being grown in both areas to see the difference in growth between the two environments. The newer area had been cleared of *Euonymus* ground cover without the use of herbicides; instead, a layer of cardboard was put down and covered with a thick layer of wood chips – after a year the ground was free of *Euonymus* and had a nice layer of decayed wood chips. The other feature is a 'stump hedge', with old stumps, tree trunks and branches settled among the ferns and used as pathway edging. Some of the stumps were planted with *Asplenium rhizophyllum* (not a slug mark on it!) and *Polypodium* 'Uulong Island', an undetermined *Polypodium* species. The hope was to grow Victorian fern cultivars in this area of the garden. They planted 30 but alas most died, maybe due to the limey soil and the heat of Kentucky. The oldest ferns in the garden are *Dryopteris filix-mas* 'Barnesii' and 'Cristata Martindale.' Through trial and error Ralph learned that *Cyrtomium falcatum* and many polystichums did not do well. For texture, both gardens were planted with hostas, lilies, hellebores, astilbes, dicentras, tiarellas and heucheras.

photo: S. Olsen

Ralph Archer in the woodland garden at Whitehall, Kentucky

Whitehall treated us to a lunch served in the manor house; it was such a treat to sit in a beautiful house at carefully laid tables and enjoy a peaceful meal. Dr Lightly, a past director of the Mount Cuba Center in Delaware, gave us an entertaining slide-show entitled 'My descent into the madness of ferns'. Many participants had enjoyed a visit to his extensive personal fern garden, Springwood, on the North-east fern tour several years ago. He finished with a little test: could anyone identify the ferns he showed on the screen? Graham Ackers and Martin Rickard topped the list of winners.

At this point Michelle Bundy and Jose Aguirre left the tour and we drove the 250 miles to Tennessee.

Tuesday 21st – Fall Creek Falls State Park, Tennessee **Richie Steffen**

The first day of summer was to be spent at Fall Creek Falls State Park. The park covers over 20,000 acres on the Cumberland Plateau with rugged landscapes and large areas of

virgin hardwood deciduous forests. Our lodging was at the State Park Inn, starkly built in the no-frills brutalism style of architecture occasionally and more kindly referred to as eclectic modernism. The harsh and rigid poured concrete lodging stood out in shocking contrast against the lush diverse forest and lake surrounding it. The sweltering hot day started with temperatures in the mid nineties Fahrenheit, with very high humidity. The goal of the day was to hike to the base of Fall Creek Falls, a short mile and a half trail, with a steady descent to the pools at the bottom. Arriving at the trailhead we were greeted by a spectacular view down onto the plunging waterfall. With a drop of 256 feet, this is the highest waterfall in the eastern United States. Over the years a large bowl-shaped pool has been carved out by the plunging water, beckoning one to venture down to enjoy the cooling mist.

photo: S. Olsen

Naud & Wim Burnett
at the base of Fall Creek Falls, Tennessee

Starting down the trail we saw several ferns common to the South-east, but a well weathered sandstone cliff held a colony of *Asplenium montanum* with some of the largest fronds we found on the entire tour, with a few measuring up to eight or ten inches in length. A short way down the trail was a second smooth-sided cliff with an enormous block that had sheared off, creating a narrow gap between the cliff and the dislodged rock. A slow steady seep drained down the cliff keeping the narrow gap moist, though it was surprisingly fern-free. However, the gap acted like an air conditioner with a steady stream of cool air spilling from the bottom onto heat-weary hikers. It was a nice break on the way down, but on the uphill return it was an essential stop to cool down.

A. rhizophyllum was found in small colonies growing on rock rubble. Near a particularly attractive patch of the walking fern were a few more young *A. montanum* along with an odd-looking young plant of what was possibly *A.* × *bradleyi*, although it was too poorly developed to confirm its identify. Another treat was a single lovely specimen of *Osmunda regalis* near the bottom pool surrounded by the lacy flowers of a very nice form of the native *Hydrangea arborescens*. Over the course of the day 14 different ferns were found, most being the typical species found throughout the South-east.

Wednesday 22nd – Blue Ridge Parkway, North Carolina **Jack Schieber**

On this day we walked trails originating from the Blue Ridge Parkway. The Parkway is a two-lane road that winds among the highlands of the south Appalachian Mountains 469 miles from Waynesboro, Virginia, to the Cherokee Indian Reservation in North Carolina. It passes near Mt Mitchell, which, at 6,684 feet elevation, is the highest peak in eastern USA. The road has points for viewing the irregular mountainous countryside and is a particularly attractive drive for viewing flora peculiar to the high country. We noted flame azaleas (*Rhododendron calendulaceum*) and mountain laurel (*Kalmia latifolia*) in bloom. Our guide and host was Tom Goforth, a retired college professor, fern nurseryman and fern researcher.

The name of his nursery, Crow Dog Native Ferns and Garden, refers to his long-time interest in the religious history and culture of the Native Americans, 'Crow Dog' being the name of an Indian chief whose life demonstrated a unique kind of courage.

Our first stop was Standing Rock Turnout where we noted how the differences in geology affect plant life. Tom talked about areas of granitic gneiss, an acidic rock, and the more alkaline mesic rocks, which, in the process of formation and wearing away, become intermixed so that top soils can be a complex mix of minerals. The soil in regions with limestone outcrops can be composed of more acidic granitic components which can explain why we sometimes find acid-loving ferns growing near lime-loving ferns.

At Bearpen Gap Turnout we noted variations in the width and length of pinnae and pinnules of *Dryopteris campyloptera*, which suggested a genetic difference from the more classic form that grows farther north in the USA and in Canada. *D. campyloptera* grows only at elevations above 4,000 feet in this southern region. We also found that the southern lady fern, *Athyrium asplenioides*, when growing below 4,000 feet has the more classic lanceolate form while that growing higher was coarser and more triangular. We also noted a similar variation in *Dryopteris intermedia* and we realised again the continuous gradation of form in some ferns and their hybrids.

Our last stop was at Shining Rock Wilderness where we climbed to 6,200 feet elevation where the trees were stunted and plant life more restricted. Here we saw lady fern, hay-scented fern and mountain wood fern surviving in the harsh sunny environment. My count for the day was 11 species of ferns.

Thursday 23rd – South Carolina Botanical Garden **Sue Olsen**

Our morning began with the surprising announcement that our previous day's guide had cancelled his plans to lead us and we would not be able to visit his nursery nor the anticipated field sites. We were not to lose the day's ferning, however, as our dedicated participants went into full research mode. Fortuitously a guide book search turned up the South Carolina Botanical Garden, which not only was within a reasonable distance but also listed among its features "wildflower, fern and bog gardens". We were on our way!

The drive continued to showcase the beauty of the Smoky Mountains as we headed south towards the garden, which is on the campus perimeter of Clemson University. Originating as a camellia preserve in 1958, the garden grew in size and scope to its present 295 acres and was designated as the South Carolina Botanical Garden in 1992. Highlights included an arboretum, multiple nature trails especially through wooded areas nourished by streams, a sculpture garden including some whimsical surprises, and one of the National Hosta Society's display gardens, which is a beautiful collection of outstanding selections. The garden is open daily with no charge. (There is also a highly regarded geology museum on the property, which is open several days a week and does have an admission charge.)

Our eager group assembled in the visitor's centre and then dispersed to various areas of interest. By taking trails, one of which was labelled the fern garden, I was pleased that in the wild woods we were able to count well over a dozen natives plus the now seemingly ever-present escape, *Cyrtomium falcatum*. *Polystichum acrostichoides* was, as usual, the dominant forest understorey fern, however, the prize for the beauty queen of the day went to *Woodwardia areolata*, which spread an ornamental swathe along the stream beds in the woodlands. Another prized find was *Lycopodium obscurum*, which was a delight across the forest floor. Unfortunately, we only had time to explore a limited portion of the gardens, however, we did feed from the wild garden into the well maintained and varied hosta test area, where we found a great assortment of commonly cultivated non-native ferns. Not surprisingly these included *Dryopteris erythrosora*, the autumn fern, which was my original

introduction to the enticing fern world, and there was an attractive, exceptionally white form of *Athyrium niponicum* 'Pictum' – 'Silver Falls' perhaps?

When our allotted time expired we converged from various paths to continue our journey to Greenville, South Carolina, to very comfortable accommodation in the La Quinta Inn and had a pleasantly social evening meal at a local eatery.

Friday 24th – University of North Carolina & Duke University, Durham, North Carolina

Graham Ackers

Checking out of our hotel, we travelled the 110 miles to the McMillan Greenhouse complex within the University of North Carolina, Charlotte. Here we were welcomed by resident botanist Dr Larry Mellichamp, who throughout our morning visit proved a most affable, and enthusiastic host. Although he is an expert on *Sarracenia* pitcher plants, many of which were on display, he proved to be very knowledgeable on many other botanical topics. Together with his colleague Paula Gross, he had written *Bizarre Botanicals*, a splendidly quirky and informative book published by Timber Press in 2010. The plants featured in the book were on display throughout the area, together with interpretive material explaining their 'bizarreness'. The greenhouse complex consisted of a courtyard area and several thematically oriented glasshouses featuring plants of ancient lineage, succulents, plants of economic importance, orchids and rainforest plants. Each area benefited from splendid environmental control systems resulting in the fine healthy plants on display. Specimens of the fern species featured in the book were on display – *Asplenium bulbiferum* (actually *A.* × *lucrosum*[4]), *Azolla caroliniana*, *Microsorum thailandicum* (with its wonderful metallic blue sheen) and *Psilotum nudum*. But there were many other ferns in the greenhouses – davallias, adiantums, polystichums, a splendid *Angiopteris*, a densely and crisply foliaged '*Nephrolepis densiflora*' (probably a cultivar of *N. exaltata*) and the beautifully cut serrated Japanese walking fern *Asplenium* × *kenzoi* (*A. antiquum* × *A. prolongatum*).

photo: P.J. Acock

***Asplenium* × *kenzoi*,**
University of North Carolina, Charlotte

Following our admiration of the greenhouses, Larry accompanied us to the outdoor garden areas, the first of which was the wooded Harwood Garden, which featured plants from around the world but with special emphasis on those from China and Japan. There were plenty of ferns to admire. Larry pointed out a strain of *Matteuccia struthiopteris* that was particularly heat tolerant and therefore able to form a fine display in the garden. There were osmundas, cyrtomiums and some plants of *Dryopteris sieboldii*, which we were informed grew very well (gardeners in cooler, more northern climes find this species very slow growing). Amongst a large display of athyriums was a dwarf variety of *Athyrium niponicum*, which was a novelty for us and prompted a couple of our party to take some (with permission of course) for further study. Having briefly inspected the Asian Garden

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[4] Ackers, R.G. (2011) The strange case of *Asplenium bulbiferum*. *Pteridologist* 5(4): 240-245.

under the searing southern heat, we moved to more equable woodland in the Van Landingham Glen, featuring hybrid rhododendrons and about 1,000 native plants of the Carolinas. About 60 of these were pteridophytes, some noted being *Osmundastrum cinnamomeum*, *Dryopteris* × *australis* (very common in all gardens visited) together with its two parents, *D. ludoviciana* and *D. celsa*, a large understorey of *Thelypteris noveboracensis*, and stands of *Woodwardia areolata*. Some plants of the latter were straying onto the path and were weeded out for onward cultivation by some of us – again, with permission of course!

To finish the morning we returned to the greenhouse complex, where Larry and Paula signed many copies of their book for tour members. We then made for the coach to eat our packed lunches whilst heading for our next destination – Duke University in Durham.

When we arrived at the Sara P. Duke Gardens, most of the party initially headed for the well stocked visitor centre shop. There, amongst other purchases, some of us bought a couple of very attractive fern prints taken from their herbarium specimens. The gardens themselves were quite large and divided into four major areas. Unfortunately we were short of time and were only really able to explore part of one of the areas – the H.L. Blomquist Garden of native plants. This was entered via an ornate wooden arch beside which were interpretive displays indicating what to see in the garden, the importance of native plants, etc. The rolling woodland terrace of this six-and-a-half-acre garden apparently contains more than 900 species and varieties of regional native plants. The pteridophytes were confined to a relatively small area and most of the modest collection were plants commonly cultivated in gardens we had visited previously. Slightly more unusual were *Cheilanthes lanosa*, *Woodsia obtusa* and *Lycopodium obscurum*.

After a short ride, we arrived at another University of North Carolina affiliated institution, the NC Botanical Garden at Chapel Hill. The garden was fronted by an impressive Education Centre, architecturally modern and 'green', completed in 2009, which included a good bookshop. The mission of the garden is "*To inspire understanding, appreciation, and conservation of plants in gardens and natural areas and to advance a sustainable relationship between people and nature.*" Supporting this mission was an impressive collection of native ferns contained in a wooded part of the garden. I counted a total of 22 taxa, many of which benefited from interpretation boards explaining their biology, morphology, distribution, etc. Some of note were *Dryopteris ludoviciana*, *Woodwardia areolata*, *W. virginica*, *Deparia acrostichoides*, *Diplazium pycnocarpon*, *Woodsia obtusa*, *Cystopteris bulbifera* and *C. protrusa*, all in fine stands. However, our enjoyment was slightly hampered by the attentions of some biting insects, fortunately rarely experienced elsewhere during our tour. On leaving the fern collection we viewed other parts of this impressive garden, including some raised beds containing water lilies, bogs with sarracenias, and native habitat reconstructions, all with excellent interpretive boards. Our visit concluded with an inspection of their plant sales, which we resisted!

Saturday 25th – Plants Delights Nursery, North Carolina **Martin Rickard**

In previous trips to America, mainly the Seattle area, I have seen ferns that I have rarely seen in cultivation before or ferns completely new to me. On asking where they came from the usual answer was from Sue Olsen, Judith Jones or Sylvia Duryee. More recently, however, a new name has kept cropping up – Tony Avent at Plants Delights Nursery. Hence one of the great attractions of coming on this trip was the chance to meet Tony and see his collection at first hand. None of us were disappointed!

On arrival we were greeted by Tony but sadly his wife Michelle was not well. Almost immediately we were led around the large garden, really a private botanic garden with ferns scattered in suitable shady spots throughout, under a canopy of unusual trees and shrubs

intermixed with some wonderful herbaceous plants. Fortunately Tony seems to like cultivars as well as species. Among the cultivars was an early surprise – a stunning crested form of, I believe, *Woodwardia areolata*. The species purists would not like it but I loved it! Another crested wonder, not hardy for me, was *Microlepia strigosa* f. *crispa* (I would have thought Cristata or even Ramosa a more appropriate name). Two crested forms of *Coniogramme intermedia*, 'Shishi' and 'Yoroi Musha,' were eye-catching if not the most beautiful forms. It was also a pleasure to see one of the beautiful *Polystichum acrostichoides* cultivars with crispy serrate pinnae. Somewhat similar but nowhere near so attractive was a rather depauperate bipinnatifid form of *Asplenium platyneuron*. *Adiantum capillus-veneris* is one of Tony's specialities. He has about 25 different collections from all over the world. Not surprisingly there are considerable morphological differences between collections. My favourite was 'Fan Dance', with fan-shaped pinnules with about a 90 degree angle at the point of attachment to its stalk.

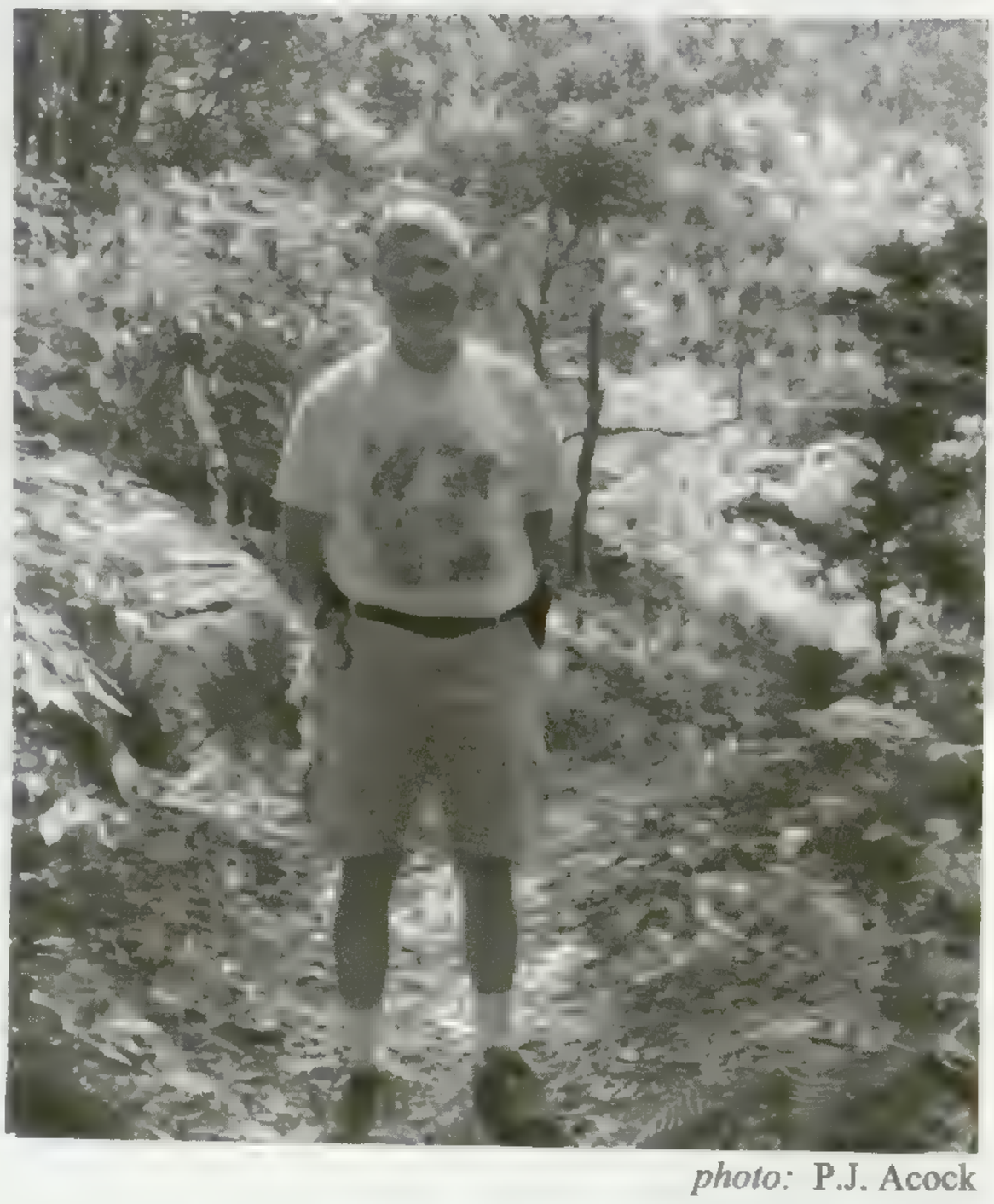


photo: P.J. Acock

Tony Avent in his wonderful fern garden, North Carolina

Species were very well represented too. Highlights for me were several coniogrammes; *Coniogramme emeiensis*, in particular, was looking perfect. *Cyrtomium chinense* was similar to *C. fortunei* but a fresher green, and *Blechnum amabile* was a very neat species a little like *B. niponicum* with new pinkish fronds. *Cheilanthes eckloniana* and *C. lanosa* were magnificent specimens. Sadly from my point of view, there were few polypods. I particularly wanted to see if anyone could cultivate *P. virginianum*; it seems not! One *Polypodium* that did grow very well is one that Tony has distributed as *P. vulgare* 'Uulong Island'. I would like to know what Asian pteridologists would call this. It surely cannot be a *P. vulgare* form; I would guess it is a species in its own right.

In this account I have only touched on some of the 1,200 collections that Tony has at the nursery. Needless to say it would take much longer than the time we had at our disposal to do the collection full justice. Another visit would be good! While many of the ferns grown here would be of marginal hardiness in the UK many would be well worth trying.

After a picnic lunch we all poured into the nursery area where many ferns were snapped up, mainly by our American contingent. All the time we were being chivvied by Kent to get onto the bus for the 270 mile drive to Charleston; it was not an easy task to drag us away! Despite the slight delay at the nursery we arrived at the Andrew Pinckney Inn, our splendid hotel in downtown Charleston, in good time to have a stroll around the city centre before an informal supper. A great day!

Sunday 26th – Charleston & Magnolia Plantation Gardens, Drayton, South Carolina

Carolyn Doherty a.m. & Pat Acock p.m.

On Sunday morning before the oppressive heat set in our group gathered for a walking tour of historic Charleston led by an excellent local guide. Founded in 1670, surviving in 1886

the worst earthquake on the east coast and more recently ravaged by Hurricane Hugo 21 years ago, Charleston is a living history lesson and is also the epitome of 'Southern Charm', having preserved its historic past while growing gracefully into the current century. While our guide informed us about Charleston's colourful past, we discovered a number of unexpected ferns as the beautiful walls, gardens and parks provided many sites for ferns to grow and thrive. We found *Pleopeltis polypodioides* growing on the decaying mortar on the tops of very old brick walls and on the huge branches of some stately oak trees. In the home gardens, parks and wall crevices we also noticed *Pteris vittata*, numerous cyrtomiums, *Asplenium platyneuron*, *Pteris multifida*, *Arachniodes simplicior*, *Pteris cretica* 'Albo-lineata' and *Adiantum capillus-veneris*, as well as *Polystichum polyblepharum*, *Dryopteris ludoviciana* and *D. erythrosora*. Time was too short. We concluded our morning with a stroll along the waterfront park, past the lovely fountains, and then through the famous Public Market to enjoy the intricate woven basketry made famous by the local artisans.

After the tour we took a short coach ride to the Magnolia Plantation Gardens at Drayton. The conservatory was a little dull for ferns, with *Asplenium australasicum*, *A. nidus* and *Christella dentata* as highlights, so we went into the wood edging the salt-marsh. The wood seemed a little dry despite its location. On one of the lakes an alligator was stalking a heron. Further on, the wood became a little wetter and the common natural ferns were more in evidence: *Thelypteris kunthii*, *Pleopeltis polypodioides*, *Osmundastrum cinnamomeum*, *Polystichum acrostichoides*, *Woodwardia areolata* and *Asplenium platyneuron*.

Monday 27th – Atlanta Botanic Gardens, Georgia **Pat Acock**

Back in Atlanta, most people either had early flights to catch or wanted to rest, but five of us who had arrived a day before the start of the tour and found that the botanic garden was closed took the opportunity to visit it today. There were many native and a few cultivated ferns in this beautifully landscaped garden. The conservatory was also a delight with many tropical ferns and (as we found out later) the collection of tropical *Equisetum* that Chad Husby had used for his research into this group. The staff very kindly allowed us to browse the fern books in the library, and later in the afternoon my son John and I were taken around the back nurseries where many of the more exotic ferns and the research collections were kept.

Conclusion **Pat Acock**

Becoming familiar with the most common ferns of the Eastern USA by no means diminished the joy of coming across them, with some being present in every wild place we visited. To have the special Appalachian spleenwort day so nearly ruined by the inclement weather, which suddenly lifted, I am sure added to the joy of actually having the afternoon up until dusk to see as many as we could. After we left the next day, tornadoes struck the area and made us appreciate what a narrow window we had had.

Our thanks go especially to Naud and Wim Burnett for conceiving the idea and for all their hard work, both in preparation and during the tour to bring together a marvellous blend of gardens, wild sites and knowledge. We also thank Kent Kratz for his support role as 'gofer', especially when everyone else was tired after the day's exertions, and Sue Olsen for her constant support and encouragement of these tours. Gus the driver had many tricky manoeuvres on narrow roads with a large vehicle and many a long journey while the rest of us were 'resting' and for this we are grateful.

My only sadness was that more people did not avail themselves of such a wonderful excursion. We had room for at least another 12, which would have reduced costs substantially. If you would like to talk over any details when the next one is announced, I would be only be too happy to oblige.

NORTHAMPTONSHIRE & DERBYSHIRE – 1-3 July (Leader: Paul Ripley)

Friday 1st – Canons Ashby, Northamptonshire

Sue Dockerill

photo: P.J. Acock

Canons Ashby (NT), Northamptonshire

Roger Golding, Paul Sharp, Nick Hards, Sue Dockerill, Paul Ripley, Chris Smith (NT), Brian Dockerill, Waldy Pierozynski

A select group of 14 BPS members assembled to visit the new fern borders at the National Trust property in Canons Ashby, south of Daventry (42/577506). After an excellent lunch arranged by Fiona Iliffe, we were shown around by the Head Gardener, Chris Smith. Although the property itself has a centuries-old history, the gardens are being restored to their Victorian style of the 1880s. Despite no direct evidence of an original fernery at the garden, one has been included as they are typical of that era.

The ferns are housed on the north side of a long, eight-foot-high wall in the Green Court, the walled area to the west of the house. The middle section is shaded by the branches of a venerable old cedar, but otherwise the border is open to the sky. Rainwater from the roof of the house has been used via a seep-hose to water the border since it was established in 2009, and it is mulched annually with leaf mould. Shade for the roots, and structure, is provided by large pieces of wood and stones. The conditions are obviously good, as the ferns were thriving, along with a range of other contrasting, shade-loving plants.

The border is still being added to and was well labelled, and we were given a plan and plant list. British native ferns and their varieties were well represented, with some stunning examples of *Dryopteris* × *complexa* that the group believed were probably the variety 'Stableri'. Given the limey nature of the soil, it was not surprising that *Polystichum aculeatum* and *P. setiferum* were flourishing, the latter with some very nice plumose forms. There were also many foreign ferns, and a well grown stand of *Hypolepis millefolium* particularly caught my eye. A trunked *Dicksonia antarctica* was throwing out new fronds, having survived the winter swathed in sheep's wool as insulation against both cold and wet.

British natives *Dryopteris filix-mas*, *Athyrium filix-femina* and *Asplenium scolopendrium* had made their home in the trenches that allow light to the cellar windows. All the polypodiums growing on various walls and roofs proved on investigation to be *P. interjectum*. Near the tea room a gritty raised bed had been made, originally to house aciphyllas, but a newly planted *Cheilanthes sinuata* should also do well in these conditions. It was very interesting to see such an extensive new fern garden so early in its life and, given the amount of new planting and the enthusiasm of the Head Gardener, I will certainly be planning a revisit.

Rather later than intended, we set off to a site for *Adiantum capillus-veneris*, a most unexpected find in this area. We were grateful to Matt Busby for showing us this railway bridge near Daventry Country Park (42/574637). Further details are given in the 2010 *Pteridologist* (vol. 5, part 3, page 164); here Matt referred to a sighting in 1985 but his

further research has revealed that it was recorded as long ago as 1956. All in all it was a very enjoyable afternoon; many thanks to Matt Busby, and to Chris Smith and Fiona Iliffe of the National Trust.

Saturday 2nd – Cave Dale & Jagger's Clough **Roger Golding**

Sixteen members, including Dr Alan Willmot, BSBI Recorder for Derbyshire, met at Castleton. Cave Dale is a dry limestone valley, overlooked by the ruins of Peveril Castle, a favourite 'picturesque' subject for landscape painters from the late eighteenth-century onwards. The area is full of old lead mines and nearby is the famous Blue John Cavern. The main target of the morning was *Asplenium viride*, which we found a few minutes' walk up Cave Dale growing in fair quantity on limestone outcrops close to the path (43/1429 8204). Other limestone-loving ferns included *Cystopteris fragilis*, *Asplenium ruta-muraria* (nice to see this growing on natural limestone rather than the usual man-made habitats) and *Asplenium trichomanes* subsp. *quadrivalens*. A particularly large colony of the latter flourished behind iron bars inside the mouth of an old mine, beside a sign warning "Danger of Death".

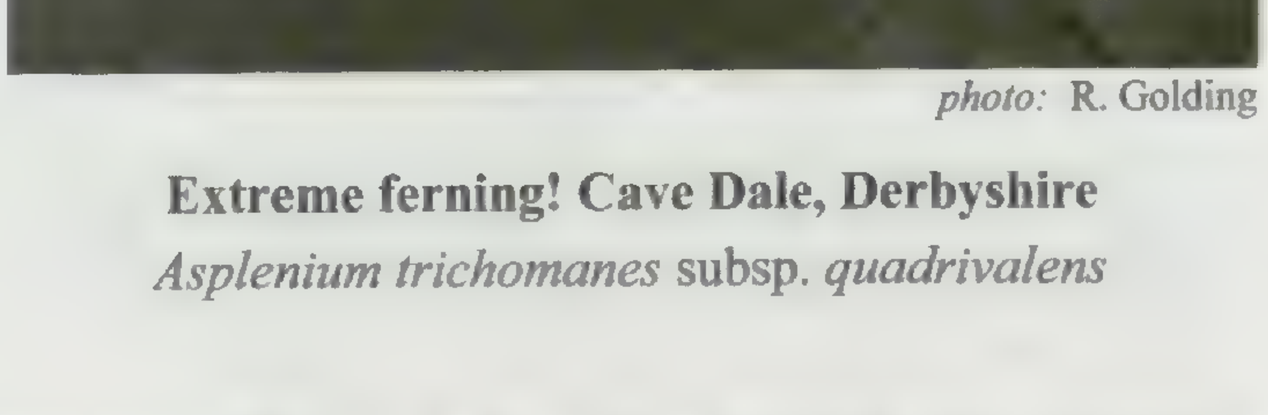


photo: R. Golding

Extreme ferning! Cave Dale, Derbyshire

Asplenium trichomanes subsp. *quadrivalens*

Lunch was taken outside at the Rambler Inn at Edale; the few clouds that had threatened to occlude the sun had by this time mostly disappeared and the remainder of the weekend was sunny and hot. The only negative aspect was that the pollen count went off the dial, with unfortunate effects on the author of this section.

photo A.M. Paul

Looking at wall ferns, Castleton, Derbyshire

Bridget Laue, Paul Sharp, Alan Willmot, Roland Ennos, passer by, Sue Dockerill, Pat Acock, Trevor Taylor, Paul Ripley, Roger & Sue Norman, Brian Dockerill

In the afternoon we assembled at 43/161863 for a walk up the lower section of Jagger's Clough – the name comes from an old term for packhorse drivers. This is a predominantly acidic area on millstone grit,

in contrast to the morning's limestone. *Phegopteris connectilis* had been found here in the past and we hoped to locate it again. We found *Blechnum spicant* and *Oreopteris limbosperma* early on, along with *Dryopteris dilatata* and *Athyrium filix-femina*, confirming the acidic nature of the terrain. In a boggy area we came upon a horsetail that showed characters of *Equisetum* × *litorale* – Pat Acock took a piece back for confirmation, and further up the valley we found both *E. arvense* and *E. sylvaticum*. Bracken (*Pteridium aquilinum*) was the most frequent fern in the interestingly named Backside Wood along with *Dryopteris filix-mas*, although most of the latter were quite small, probably having been grazed earlier in the year. Further up the valley a few fronds of *Gymnocarpium dryopteris* were spotted close to the river, but no *Phegopteris connectilis* until Paul Ripley led us back to a spot close to our starting point, where it was flourishing on a wooded slope (43/159872). Nearby was a nice specimen of *Dryopteris borreri*.

In the evening we assembled for a meal at the Monsal Head Hotel where we were treated to a gorgeous sunset over Monsal Dale.

Sunday 3rd – Millers Dale & Tissington Trail **Pat Acock**

On Sunday morning we met in Millers Dale near Litton Mill (43/1565 7310). Yvonne Golding led us on a slight diversion to Bellamy's Bank, one of David Bellamy's favourite meadows. *Asplenium ruta-muraria*, *A. trichomanes*, *Dryopteris filix-mas* and *Polypodium interjectum* were growing on or close to the steps leading up to the meadow. The meadow was filled with wild flowers and on this beautiful summer's day butterflies were everywhere, including the dark green fritillary.

Retracing our steps and continuing on, we noted *Dryopteris erythrosora* in a garden and further down the road *Woodwardia unigemmata* was growing near Litton Mill. We climbed up to the old railway line, now part of the Monsal Trail (43/1574 7298). Our prime objective was to see *Dryopteris submontana* at one of its two known Derbyshire sites; one plant could easily be seen and there were a few more plants higher up. We also recorded *Cystopteris fragilis*, *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens*, *Polypodium interjectum*, *Polystichum aculeatum* and *Dryopteris dilatata*. There was much debate as to whether the large colonies of *P. interjectum* could have been *P.* × *mantoniae* but on closer inspection Alison Paul was convinced that all the material was *P. interjectum*.

A quick stop by the A6 road at a lay-by (43/1031 8243) revealed *Dryopteris filix-mas*, *Asplenium ruta-muraria*, *Equisetum arvense* and *Polystichum aculeatum*, and at the head of a short path near a quarry a superb stand of *Gymnocarpium robertianum* had colonised a shady scree slope.

Lunching at the Waterloo Inn in Biggin, we were joined by Rob Cooke and Dawn Isaacs who had unfortunately missed us in the morning due to confusion regarding car parking.

photo: P.J. Acock

***Dryopteris submontana*, Tissington Trail, Derbyshire**

We moved on to the nearby Tissington Trail, another disused railway line and the other Derbyshire site for the rare *Dryopteris submontana*; over a dozen plants were seen growing out of cracks in the limestone. Additionally, in rapid succession over about a quarter of a mile (43/1620 5806) we saw *Dryopteris filix-mas*, *D. dilatata*, *Athyrium filix-femina*, *Asplenium ruta-muraria*, *A. trichomanes* subsp. *quadrivalens*, *A. adiantum-nigrum*, *Dryopteris affinis*, *D. borreri*, *Polypodium interjectum* and *Polystichum aculeatum*. Although we had seen all of these ferns during the weekend, various small groups spent a happy hour or so in the railway cutting looking at the ferns that specifically interested them and hoping to find the odd hybrid; there were some interesting *Dryopteris* plants growing in great numbers close to each other, possibly *D.* × *complexa*.

Finally, we were all kindly invited back to Yvonne's house in Buxton for tea. Her garden is fascinating, with a wonderful collection of ferns (and other plants) that utilise some seemingly unpromising sites in her small garden. Her greenhouse is worthy of a botanical garden with many tropical ferns superbly grown. We were treated to a lovely cream tea, which rounded off a weekend blessed with amazing weather.

The leader is extremely grateful to Yvonne, not just for her generous hospitality but for her great help with sites and organisation.

PERTHSHIRE & ANGUS – 6-8 August

Frank McGavigan *et al.*

(*Participants:* Bruce Brown, Cliff Davies, John Edgington, Alison & Chris Evans, Mary Gibby, Roger Golding, Bridget Laue & Paul Sharp, Frank McGavigan, Heather McHaffie, Paul Ripley & Lindsey Holleworth, Ian Teesdale, Leslie Tucker, Fred Rumsey.)

Based at Kindrogan Field Centre (37/055630) in Perthshire (friendly staff, delicious food and a well stocked bar – essential prerequisites for a good ferning weekend), we were in easy reach of some superb sites that are well known to Heather McHaffie who runs regular fern identification courses at the centre. With Heather as our guide we had an excellent weekend, recording 42 taxa.

On Saturday our first stop was in Glenshee, parking near the Devil's Elbow in a lay-by at 37/131749. We crossed the road and climbed the hillside on the west side of the A93 to find some impressive clumps of *Polystichum lonchitis*, masses of *Asplenium viride*, *A. ruta-muraria* (growing on rock at 37/1306 7528) and *Polystichum aculeatum* all growing on or around limestone outcrops. There were also more common things with a lower pH preference – *Athyrium filix-femina*, *Blechnum spicant*, *Dryopteris affinis* (there was no getting away with 'aggregating' on this trip), *D. dilatata*, *D. filix-mas*, *Equisetum arvense* (why does it not proliferate here as it does in gardens?), *E. sylvaticum*, *Gymnocarpium dryopteris*, *Oreopteris limbosperma*, *Phegopteris connectilis*, a polypody (later confirmed as *Polypodium vulgare*) and the club mosses *Huperzia selago* and *Selaginella selaginoides*.

After a couple of hours revelling in these delights we re-crossed the road to the Allt a' Ghlinne Beag (the little glen stream) to look for *Equisetum variegatum*. It had been washed away from where Heather had last seen it but we eventually located some further upstream at 37/1327 7501, leaving us pondering about *E. variegatum*'s precarious existence. We also noted *E. palustre* and, after our sandwich lunch, *Dryopteris borreri*, *D. cambrensis*, and *D. carthusiana* for which Mary Gibby gave us a useful identification feature, viz. the young croziers are completely green.

A little further north, at the Glenshee Ski Centre (37/138781), the surface of the hillside had been scraped away several years previously to prevent landslips. The vegetation is recovering only very slowly, which has given the opportunity for an invasion of *Botrychium lunaria*. I do not think I have ever seen so many moonworts together. Interspersed were the creeping shoots of *Lycopodium clavatum* with their characteristic 'stag-horns', and further up the hill *Diphasiastrum alpinum*.

After taking advantage of the Ski Centre café we headed back down the glen to Loch Drumore (car park at 37/169609) – different county (Angus), different terrain but another fern 'hot-spot'. Here we did not find anything new (except *Dryopteris oreades*, located by the more adventurous at the top of the scree opposite the car park) but the ferns were luxuriating in such profusion that this site deserves to be better known. Our *D. affinis* distinguishing skills were put to the test – we concluded all three species (*D. affinis*, *D. borreri* and *D. cambrensis*) were present. *Asplenium trichomanes* subsp. *quadrivalens* was lush and abundant. There were some fine plants of *Polystichum aculeatum* and of many of the other species we had seen earlier in the day. And of course at this lower altitude there was bracken. There was much excitement at the discovery at the water's edge of possible *Equisetum* × *litorale* (the hybrid between *E. arvense* and *E. fluviatile*) – or was it *E.* × *dycei* (*E. fluviatile* × *E. palustre*), but neither has been confirmed. Perhaps at the end of a superlative fern-hunting day we were beginning to imagine goodies that were not there.

Sunday 7th – Perthshire sites **Alison Evans**

We awoke to the sound of rain on the windows, so perhaps it was just as well that this was a day of frequent short stops to see ferns quite close to the road. We set off in the direction of Loch Tummel and stopped at 27/9122 5962 to see a magnificent stand of *Equisetum pratense* by the roadside and spreading across the ditch. We also noted *Dryopteris affinis*, *D. filix-mas*, *Blechnum spicant* and *Pteridium aquilinum*. Our second stop at 27/9044 6014 was to walk a short way along the Killiecrankie path to Coronation Bridge. We added *Dryopteris borreri*, *D. dilatata*, *Athyrium filix-femina*, *Oreopteris limbosperma*, *Gymnocarpium dryopteris*, *Phegopteris connectilis* and *Polypodium vulgare* to our list.

Our next stop was where a rushing torrent comes down to the loch at 27/8435 5920, creating quite a delta where it enters the lake. We walked a little way up the stream on a very slippery path, seeing many ferns but no new taxa, until the path became too dangerous and we retraced our steps to the loch side. Here we found a few quills of washed-up *Isoetes lacustris*, showing the four air chambers very clearly, and possible *Equisetum* × *litorale*. The rain had slackened somewhat, so our next stop was light relief – to learn how to 'fire' iris leaves under Heather's tuition; some were more successful than others. Soon after this we had another roadside stop at 27/7781 5793, where there is a stand of *Pteridium aquilinum* var. *osmundaceum*. Not everyone felt moved to get out of the van for this, but at our next stop (27/7753 5907) everyone braved the walk across the field in the rain to see Heather in her waders, ploughing through the water to find submerged *Pilularia globulifera* and returning with a good specimen.

We then drove south to Loch Kinardochy, where the stand of *Equisetum fluviatile* in the water is visible from some distance with its characteristic shade of green. It was still raining so we ate our lunch in the van, but then it cleared up enough for us to have a good spell exploring the blanket bog by the loch. Extra applications of insect repellent were needed here. The vegetation was very wet and the paths slippery so several people got wet feet. The first spikes of *E. fluviatile* that we pulled out to inspect came with leeches, which we returned to their natural habitat after watching them waving about, perhaps in search of prey. We added *E. palustre* and *Dryopteris carthusiana* to our list for the day. In addition to the ferns, we saw marsh cinquefoil, *Potentilla palustris*, and wonderful wine-red mounds of *Sphagnum capillifolium*.

From here we drove along the north side of Schiehallion, a mountain famous for being the site of an experiment undertaken by Nevil Maskelyne in the late 1700s to estimate the mass of the earth and Newton's gravitational constant, G. We parked at 27/7149 5741 and soon found *Asplenium trichomanes*, *A. viride* and *Cystopteris fragilis* growing in the limestone rock-face near the road. The wet grassy area near the road was dotted with the white flowers of *Parnassia palustris* and also contained *Selaginella selaginoides*, *Equisetum palustre* and *E. arvense*. We walked up the hill through the Scotch mist to a small area of

limestone pavement to see a small but apparently expanding colony of *Gymnocarpium robertianum*, possibly planted in the 1800s. After rounding up some splinter groups of angiosperm hunters, we set off towards Aberfeldy and a cup of tea, only to stop again at 27/7225 5686 to look for *Equisetum hyemale*. We found some very robust specimens in a wet area where there were quite bare patches amongst the heather. We also found *Equisetum sylvaticum* and more *Selaginella* at this site, and plenty of midges.

Thinking that we had had a very full day's ferning, we enjoyed a cup of tea in the café below a bookshop in Aberfeldy, then a few of us walked along the street to find a crested *Dryopteris filix-mas* growing on a bridge. An extra bonus on the way home was a stop in Logierait to inspect the Pictish stone near the church door. We also found the last taxon of the day, *Asplenium ruta-muraria*, growing on a wall in the churchyard.

Monday 8th – Corrie Fee, Angus **Paul Ripley**

On a bright breezy day, with only light showers blown rapidly across the hills, we parked at the Visitor Centre at Glen Doll (37/283761). We were joined by Laura Lucas and Graham Christer from the Angus Ranger Service, who guided us to a car park nearer the head of the glen. On the short walk to the lip of the corrie *Dryopteris dilatata*, *Blechnum spicant* and *Oreopteris limbosperma* were abundant, indeed the latter two species were ubiquitous.

photo courtesy A.J. Evans

Corrie Fee, Angus: Alison Evans, Chris Evans, Graham Christer (ranger), Paul Ripley, Cliff Davies, Bruce Brown, Ian Teesdale (*behind*), Frank McGavigan, John Edgington, Fred Rumsey, Lindsey Holleworth, Mary Gibby, Roger Golding, Paul Sharp, Bridget Laue

Never having visited this site before, I was unprepared for the spectacular sight that greeted us on arriving at the lip of the corrie (37/264753). A huge amphitheatre opened before us, steep-sided cliffs guarding all sides, with a burn cascading like a silver knife from the farthest wall. The corrie has suffered from over-grazing in the past and livestock are discouraged, although we did see two deer, and a small number of sheep grazing high up on the southern face. *Salix lanata* is being planted in certain areas as part of a conservation

programme. We followed the track up the corrie floor, passing *Lycopodium clavatum*, *Huperzia selago*, *Phegopteris connectilis*, *Gymnocarpium dryopteris*, *Athyrium filix-femina*, *Selaginella selaginoides*, *Equisetum palustre* and *E. arvense*. Heather showed us *Equisetum pratense* and *E. sylvaticum*, with the clearly intermediate *E.* × *mildeanum*.

Nearer the head of the corrie, we climbed up to and traversed the base of the cliffs that formed the walls of the corrie (37/254751). The presence of occasional limestone was revealed by the occurrence of *Cystopteris fragilis*, *Asplenium viride*, *A. trichomanes* subsp. *quadrivalens*, *Polystichum aculeatum*, and *P. lonchitis* – not at all uncommon here. They grew quite close to the extreme calcifuge *Cryptogramma crispa*. Among the scree and boulders we saw *Dryopteris oreades* and at various times *D. affinis*, *D. cambrensis* and *D. borreri* growing in sheltered sites (or protected from grazing). We found the target of our expedition, the beautiful, if diminutive, *Woodsia alpina* – very small plants – and more healthy-looking *W. ilvensis* growing in horizontal cracks in the rock-face.

A breakaway group, incredibly lured by some non-fern, also found *Dryopteris expansa*, *Polypodium vulgare* and a single *Botrychium lunaria*. However, with considerable delight, a small group of us who dawdled on the descent from the corrie found *Lycopodium annotinum*, and some beautiful plants of *Dryopteris expansa* with characteristic upright stance, upward-pointing lower pinnae with prominent basiscopic pinnules, and pale scales, growing deep in clefts between boulders.

We felt very grateful to Heather for showing us this beautiful and special site.

Tuesday 9th – Glen Feshie, Invernessshire **Roger Golding**

After the end of the main meeting, five of us drove north to Glen Feshie in the heart of the Cairngorms. Our main objective was to visit one of the two known sites for *Lycopodium lagopus* (Arctic stag's horn clubmoss), first identified by Fred Rumsey from old herbarium specimens. We also hoped to find *Diphasiastrum* × *issleri*, (hybrid alpine clubmoss). I had seen a small group of plants here a few years ago, but I had heard reports of other populations in the area and wanted see if we could find any of these.

We parked at a picnic site just off the road down the glen (28/852012), and made our way up through native Scots pine woods, with both normal bracken (*Pteridium aquilinum* subsp. *aquilinum* and pinewood bracken (*P. aquilinum* subsp. *pinetorum*). A forked-fronded *Blechnum spicant* caused a brief halt. We followed the path (well-maintained as part of the Invereshie and Inshriach nature reserve) as it snaked across the hillside, finally leaving it for a tough uphill stretch through heather and other low shrubs. Heather educated us on the differences between cowberry, crowberry and bearberry. We had already seen *Huperzia selago* (fir clubmoss), and now began to see small groups of *Lycopodium annotinum* (interrupted clubmoss).

A stop for lunch on the cold and windswept summit of Meall Tionail (28/884001) was followed by a few minutes of casting about the tundra-like plateau, finally finding some rather ambiguous candidates for *Diphasiastrum* × *issleri* near where I had seen it a few years ago (28/886001), amongst a much larger population of *D. alpinum* (alpine clubmoss). Just below the summit ridge between Meall Buidhe and Geall Charn, we inspected the large expanse of *Lycopodium lagopus* scrambling amongst the stunted heather over several hundred square metres of hillside (28/888010). Also here in a hollow, presumably site of late snow-melt, we inspected *Athyrium distentifolium* and *Dryopteris expansa*; nearby were other ferns including *D. dilatata*, *Blechnum spicant*, *Oreopteris limbosperma* and *Phegopteris connectilis*.

As we made our way back we encountered more convincing populations of *Diphasiastrum* × *issleri* among the heather, as I had hoped, along with much more *Lycopodium annotinum* (28/886003, 28/886004). The weather had gradually improved but back at the cars we were besieged by hungry midges and beat a hasty retreat up the glen.

ISLE OF MAN – 26 September – 1 October — J.M. Ide *et al.*

The aim of this meeting was to help with the recording of the pteridophytes of the Island in preparation for the new Island flora to be published in 2014. Whilst the presence and distribution of the pteridophytes were well known to our guides, Dr Peter McEvoy, Senior Biodiversity Officer (Botanist) for the Isle of Man Department of the Environment, Forestry and Agriculture (DEFA) and Dr Andree Dubbeldam, Ecologist and Wildflower Project Manager of the Manx Wildlife Trust, there were critical taxa with which we were able to provide help.

Tuesday 27th September — Pam Simpson & Rob Cooke

Our first visit was to Glen Maye (24/235797), just south of Peel, one of the wooded 'national glens' that are a feature of the Manx countryside and host a large fern flora. Many of the glens, Glen Maye included, have areas that were 'improved' by the Victorians. Besides the more common fern species of acidic deciduous woodlands, including *Polystichum setiferum* (frequent here, as it was elsewhere on the western side of the island), we were able to find all three species of *Polypodium*. *P. cambricum*, rare in the Isle of Man and listed as extinct by Larch S. Garrad (*c.*1998, unpublished notes), was found near its previously reported site. We were also delighted to find *P.* × *mantoniae*, also considered rare but probably under-recorded. Several common aspleniums were found on walls, and *Asplenium marinum* was noted in a Victorian grotto on the beach. On the return walk, the more energetic members made a long detour down the cliffs and were rewarded with a colony of *Dryopteris aemula* on the cliff and *Adiantum capillus-veneris* in three sea caves.

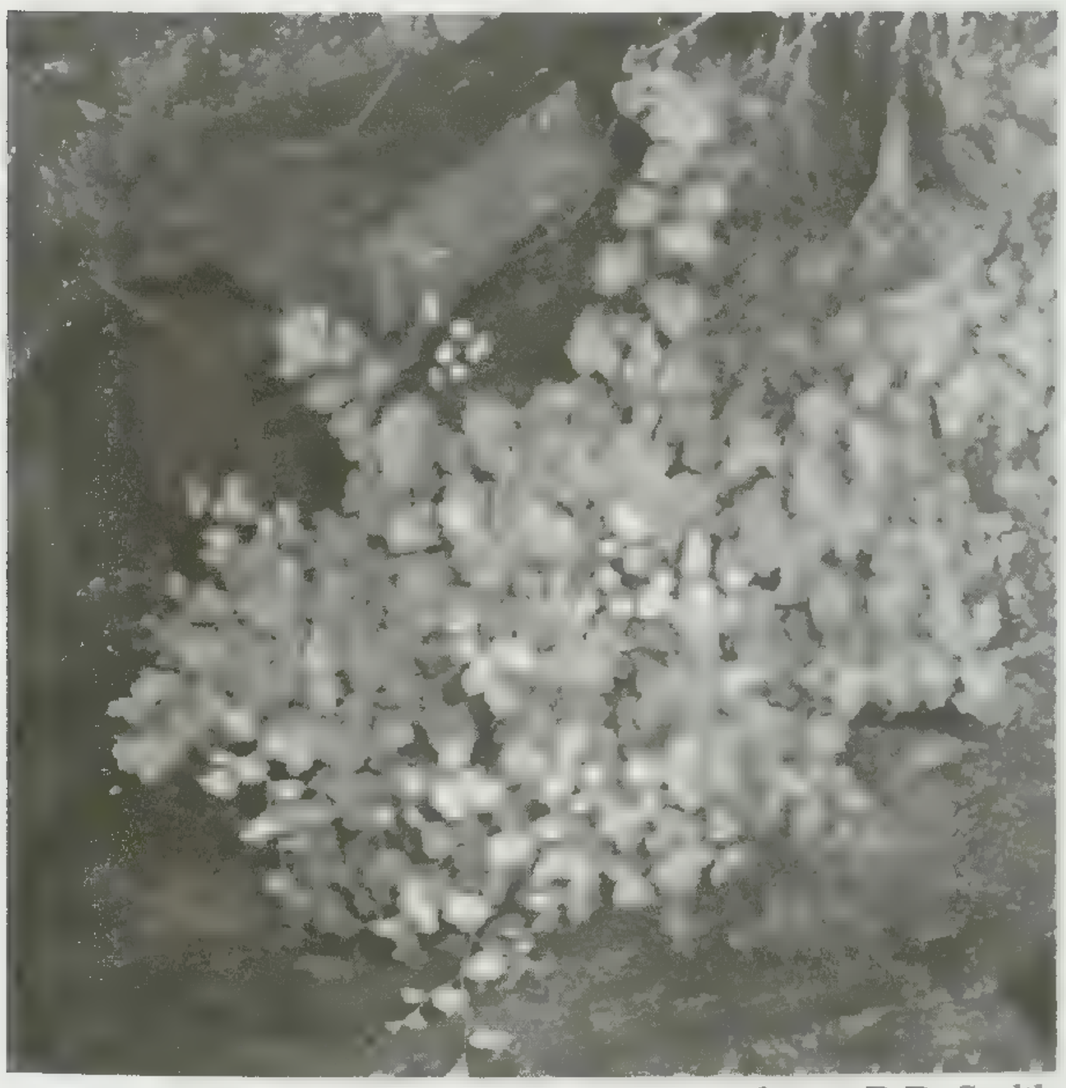


photo: B.D. Smith

***Adiantum capillus-veneris* at Glen Maye, Isle of Man**

After lunch we visited the disused South Barrule quarry (24/274771) where a flourishing colony of *Cryptogramma crispa* grew on the spoil heaps. Further *C. crispa* and *Dryopteris aemula* were seen at Cronk-ny-Arrey-Laa (24/232747). We finished the day at the DEFA offices for a lecture on the geology of the island by Kate Hawkins, Curator of Natural History for Manx National Heritage. *Asplenium ruta-muraria* was recorded on the boundary wall of the grounds of DEFA at the conclusion of the day. This once rare species is now spreading, owing to the increase in mortared walls on the island.

Wednesday 28th September — Paul Ripley & Christine Mullins

In beautiful weather, we visited two more of the Isle of Man's attractive glens. The first was Glen Roy, where we started out from a restaurant south of Laxey (24/4238 8370) and followed upstream the course of a small river. Near the start of the walk *Dryopteris filix-mas* grew – a common species, but not in the glens themselves. At times we followed a small leat, beside which *Blechnum spicant* and *Oreopteris limbosperma* were common. *Pteridium aquilinum* covered the hillside that sloped away from the stream. We found both *Dryopteris affinis*, which was common and *D. borreri*, including a very foliose form. A feature of this glen was *Polystichum aculeatum*, which grew near the stream or on low walls. Although some of the plants bore a superficial resemblance to *P. setiferum*, this was not found despite diligent searching. Although beech fern is known from this glen, the difficult terrain further up the glen precluded more exploration.

We enjoyed lunch in a nearby picnic and recreational area overlooking Dhoon Glen station on the quaint Manx Electric Railway. In the afternoon we descended Dhoon Glen (24/4520 8639), a beautiful glen containing *Dryopteris affinis* in abundance and *D. borreri*; the truly lovely stands of *D. aemula* were a delight. The stream descends steeply and among the many waterfalls was a higher one that provided dark shade where *Asplenium trichomanes* subsp. *trichomanes* grew. There were also many *Polystichum* plants here, both *P. setiferum* and *P. aculeatum* and a few intermediate forms that it has not been possible to identify. The glen opened eventually to the sea at an attractive cove (24/4686) where *Asplenium adiantum-nigrum* and *A. marinum* grew in clefts in rocks near the sea. We returned by a more open path, enjoying the last of the autumn sun and reflecting on a super day.

Thursday 29th September

Sue & Roger Norman

We started the day in cooler, cloudy conditions at Cooildarry Nature Reserve (24/3149 9020). This relatively wide glen has a number of streams running through it, cutting deep into the rich overlay of glacial drift down to slate beneath. In the Glen a Victorian waterwheel powered a railway, which carried Fuller's Earth up to a building where it was dried prior to use in the cleaning of sheep fleeces. Selective felling and wind-blown trees resulted in relatively high light intensities at ground level. A good range of pteridophytes was seen, including various species of the *Dryopteris affinis* aggregate and of *Equisetum*, including a hybrid (*E.* × *litorale*). A fine slate wall on the road supported good plants of *Asplenium adiantum-nigrum*, *A. scolopendrium*, *A. trichomanes* subsp. *quadrivalens* and *Polypodium vulgare*.

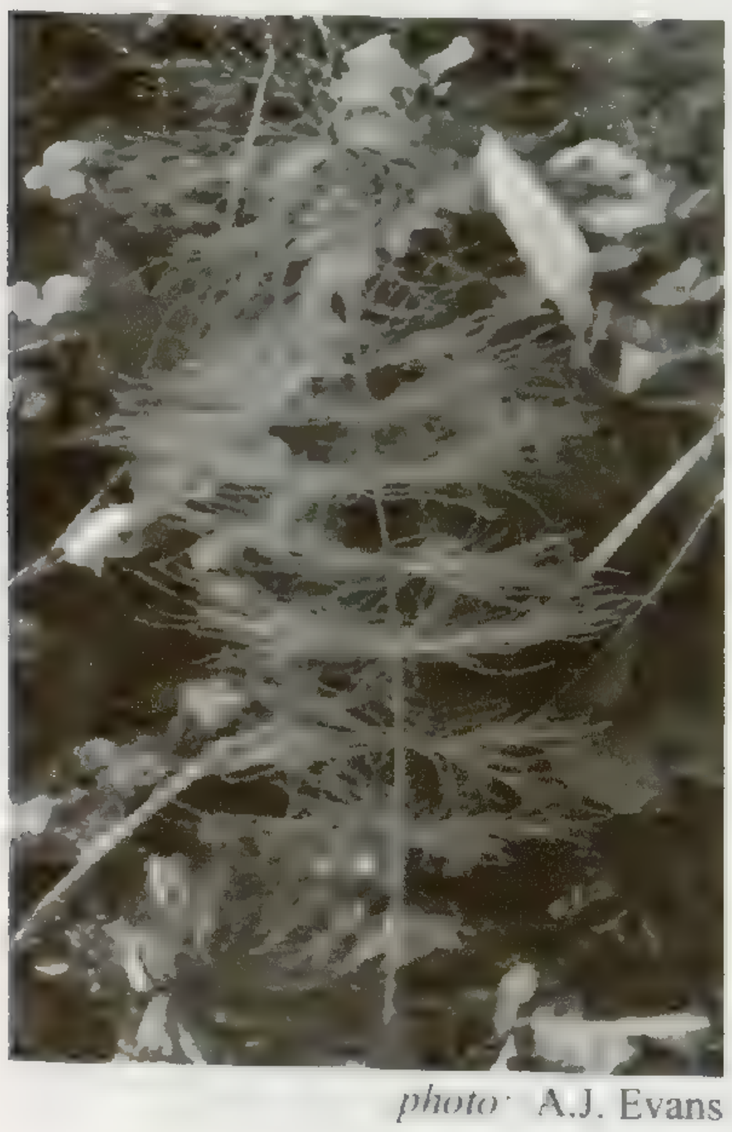


photo: A.J. Evans

***Equisetum sylvaticum*, Cooildarry NR, Isle of Man**

At Glen Rushen Mines (24/2616 7801) the increased altitude brought mist and drizzle and loss of views. An early lunch was taken at 'Snuff the Wind' Mine, where plenty of adder's tongue was found, but no moonwort. The weather removed any incentive to explore the industrial archaeology.

We drove to Stoney Mountain (24/2881 7762) and walked along forestry tracks to open moorland where the old fire-fighting reservoirs dug here were now partly overgrown. We spread out and struggled through tall grasses, blaeberry and myrtle bushes and skirted deep, water-filled pits, quite glad that it was still cloudy and not too hot! Eventually we found our prize, a single plant of *Dryopteris carthusiana*, reported ten years previously and now confirmed by the four bright green crosiers in the form of a cross at the base of the plant. The hoped-for hen harriers and short-eared owls failed to appear.

photo: B.D. Smith

Stoney Mountain, Isle of Man

Roger Norman, Alison Evans, Bruce Brown & Paul Ripley ponder over *Dryopteris carthusiana*

We retraced our steps, past excitable terriers and up to an old feldspar quarry where extraction work had left two ponds surrounded by large boulders and flanked by near-vertical cliff walls. Here we found a good range of species including several clumps of *Huperzia selago*.

Friday 30th September **Bryan & Gill Smith**

A sunny morning bode well as we gathered at the entrance of wooded Glen Mona (24/462885) on the Barony Estate. Andree Dubbeldam was our guide, and we were joined by Gail Jeffcoate and Amber Cordwell, two local members who are working on the new Flora for the island. One group took the more energetic route down into the floor of the glen, and were rewarded in particular with *Phegopteris connectilis*, *Polystichum setiferum* and *Equisetum telmateia*. The other group headed down the road towards the beach at Port Cornaa, seeing many of the ferns recorded earlier in the week, but some good stands of *Oreopteris limbosperma* were particularly noteworthy. To save us walking back up the hill, Andree kindly brought the bus down to the beach, pausing on his way past to show us a frond of *Phegopteris connectilis* that he had found in an 'interesting' part of the glen. Unfortunately, the minibus got well and truly stuck in the shingle. Undeterred, we ate our packed lunches and set off to an old salmon pond (24/470885) where *P. connectilis* used to grow. We could not find it, but there was a good stand of *Dryopteris aemula*, and we had passed a rare sight en route – a coppice of elm trees. A further setback then occurred – we had been cut-off by a higher than anticipated tide, which meant paddling though the water or scrambling up a steep bank back to the lane. By this time a 4x4 had arrived, which, aided by some of us, towed the minibus out of the shingle. Andree then took us to see his *P. connectilis* site (24/461886), which was truly magical – set deep in an overgrown muddy ravine, accessed by crossing a rock-strewn fast-flowing stream and a narrow path overgrown with ferns.

Later in the afternoon we drove to Injebreck (24/357842), passing Snaefell mountain, to try and find *Hymenophyllum wilsonii*. We were joined by Peter McEvoy and two colleagues and a small clump was found; however, it was only accessible via a narrow, rocky waterfall cascade. One of Peter's colleagues who was wearing full waders managed to collect a voucher specimen. The rest of us had to be content with seeing it through binoculars while perched on a small overhang! We returned to the bus and had to remove a number of ticks gathered from the trek and to disinfect our boots to prevent spreading sudden oak death fungus (*Phytophthora ramorum*), which is carried on larch-needles.

Saturday 1st October

Bruce Brown

The weather on our final day looked a little unpromising but it managed to stay fine for our visit to Ballaugh Curragh (24/363952), an exceptional area of wetland and the first designated Manx Ramsar site. (Ramsar Convention on Wetlands was signed in Ramsar, Iran 1971.) It consists of extensive willow carr with some birch, surrounded by orchid-rich wet grassland managed as hay-meadow. The carr itself was cut for peat over the centuries then allowed

photo: A.J. Evans

Ballaugh Curragh, Isle of Man
Christine Mullins & Alison Evans with *Osmunda regalis*

to regenerate. The main interest for us was the prolific growth of *Osmunda regalis* – from old plants with huge crowns, to young sporelings lining the ditches and in places totally covering the peat cuttings and dominating the ground flora.

The narrow path followed the low hump of an old hedge line, zigzagging through the willows and around the cuttings and osmundas, constantly changing direction and so making it a fascinating journey with potential surprises round every corner. These included brief sightings

Ferns seen during Isle of Man meeting, September/October 2011 (compiled by Rob Cooke)
(*Some minor sites not mentioned in the report are listed here.*)

	Glen Maye 24/2379	Glen Maye 24/2279	Cliff path 24/2280	South Barrule Quarry 24/2745 7711	Walls by DEFA building 24/28012 81172	Glen Roy 24/ 4238 8370	Dhoon Glen 24/ 4520 8639	Dhoon Glen 24/ 4686	Glen Helen 24/2984	Glen Helen 24/3084	Cooildarry 24/3149 9020
	27 September					28 September					29 Sept
Adiantum capillus-veneris			+								
Asplenium adiantum-nigrum		+					+	+			+
A. marinum		+						+			
A. ruta-muraria					+						
A. scolopendrium	+	+		+	+	+	+		+	+	+
A. trichomanes subsp. quadrivalens		+		+	+	+	+		+		+
A. trichomanes subsp. trichomanes							prob.				
Athyrium filix-femina	+			+	+	+	+		+	+	+
Blechnum spicant	+			+		+	+		+	+	+
Cryptogramma crispa				+							
Dryopteris aemula			+				+	+			
D. affinis	+	+		+		+	+		+	+	+
D. borreri		+		+		+	+		+	+	+
D. cambrensis											
D. carthusiana											
D. dilatata	+	+		+	+	+	+		+	+	+
D. filix-mas	+			+	+	+	+		+	+	+
D. × complexa											poss.
Equisetum arvense			+			+					+
E. fluviatile											
E. palustre											
E. sylvaticum						+	+				+
E. telmateia											+
E. × litorale											+
Huperzia selago											
Hymenophyllum wilsonii											
Ophioglossum vulgatum											
Oreopteris limbosperma				+		+	+			+	
Osmunda regalis											
Phegopteris connectilis											
Polypodium cambricum		+									
P. interjectum		+			+	+					
P. vulgare	+			+		+		+	+		+
P. × mantoniae		+									
Polystichum aculeatum						+	+				
P. setiferum	+	+					+				+
Pteridium aquilinum	+	+	+	+		+	+	+			+

of strange mammals in the form of escaped wallabies and we heard the pounding of their feet, a warning to others of our presence. Besides the osmundas and other more common species, we were able to add *Equisetum palustre* to our list, and later, near a bird hide where we enjoyed lunch, a large clump of *Dryopteris cambrensis* was found (24/360954), a new record for the island.

It was time to say our thanks and goodbyes to our Manx friends. Those not leaving directly for home explored Peel Castle in the gathering gloom and rain, noting a lot more *Asplenium marinum* on the castle walls, and even had a sighting of a Manx cat!

	Glen Rushen Mine 24/2616 7801	Toilet stop 24/32127 89739	Stoney Mountain 24/2881 7762	Stoney Mountain 24/2788 7696	Glen Mona 24/4688	Glen Mona - coast & salmon pool - 24/4787-88	Glen Mona 24/4588	Glen Mona 24/4788	Injebreck 24/357842	Barony & Cornaa - road verge - 24/4622 8854	Ballaugh 24/346935	Ballaugh Curragh 24/3634 9519
	29 September				30 September						1 October	
Adiantum capillus-veneris												
Asplenium adiantum-nigrum										+		
A. marinum						+						
A. ruta-muraria											+	
A. scolopendrium	+				+					+		
A. trichomanes subsp. quadrivalens		+			+				+	+	+	
A. trichomanes subsp. trichomanes												
Athyrium filix-femina			+	+	+	+			+	+		+
Blechnum spicant	+		+	+	+	+			+	+		+
Cryptogramma crispa												
Dryopteris aemula					+	+						
D. affinis			+	+	+					+		+ *
D. borreri			+		+				+	+		+
D. cambrensis												+
D. carthusiana				+ #								
D. dilatata			+	+	+				+	+		+
D. filix-mas	+			+	+							+
D. × complexa					?							
Equisetum arvense				+	+							+
E. fluviatile												+
E. palustre												+ **
E. sylvaticum												
E. telmateia					+							
E. × litorale												
Huperzia selago			+									
Hymenophyllum wilsonii									+			
Ophioglossum vulgatum	+											
Oreopteris limbosperma			+		+				+	+		
Osmunda regalis												+
Phegopteris connectilis					+		+					
Polypodium cambricum												
P. interjectum	poss.				+						+	
P. vulgare	+	+				+			+	+		
P. × mantoniae												
Polystichum aculeatum												
P. setiferum					+			+				
Pteridium aquilinum			+	+	+				+			+

\# at 24/2841 7626 * & at 24/3694 ** at 24/3694

LECTURE MEETINGS AND DAY VISITS

AGM & SPRING MEETING, DUNCHURCH PARK HOTEL & CONFERENCE CENTRE NEAR RUGBY – 9 April

Martin Rickard

Over 50 members and friends enjoyed a very interesting day in a very pleasant venue – many thanks to Matt Busby for arranging it all. Booksales and Merchandising were present, offering a very wide range of books and Society-themed items for sale. In addition, large numbers of spare spore packets from the Spore Exchange were available free to interested members. Apart from the AGM itself the main business of the day comprised four talks, all themed around 'Ferns in the urban environment'.

Matt Busby kicked off with his presentation entitled 'Ferns in an urban environment (many questions ... few answers)'. This dealt largely with Matt's knowledge of the ecology of the ferns of the canal network in the West Midlands. Matt has walked all the canals and the commonest fern is *Asplenium scolopendrium*. Recently *A. ruta-muraria* has started to colonise walls in central Birmingham, whereas thirty years ago it was unrecorded. It's a slow job for ferns to establish – according to Arnold Darlington's *Ecology of walls* it takes about 60 years for *A. trichomanes* to colonise walls – and then it only lasts for about eight to ten years! Matt's long term familiarity with the local ferns allowed him to show pictures of the same site thirty years ago and now. The differences in the fern population were always striking. Competition from other plants was frequently a problem, for example large flowering plants can grow up and overhang established ferns, eventually causing their extinction due to low light and rainfall penetration. However, over time the gains have far outnumbered the losses, probably due to natural colonisation and cleaner air. The same is true nationally, these three aspleniums being reasonably common now in much of lowland Britain, whereas in ancient times there were no walls and these ferns were confined to rocks in the west and north.

Matt was followed by John Edgington who gave an account of 'The fern flora of central London'. Ferns are appearing on walls even in central London. The walls are usually basement retaining walls immediately under the pavement. Several ferns have become too common to count, i.e. *Dryopteris filix-mas*, *Pteridium aquilinum* and *Asplenium scolopendrium*. Others are becoming relatively common, particularly *A. trichomanes* subsp. *quadrivalens*. In 1869 there was only one very old record for the area; currently John knows of 68 sites. Similarly, *A. adiantum-nigrum* has spread from no sites in 1869 to 55 now! In all, John has recorded 16 species of native ferns and 14 exotics. Thirty species in a very restricted area – sounds like a fern paradise! Not surprisingly, *Polypodium interjectum* seems to be more common than *P. vulgare* – 21 and 11 sites respectively. It is more surprising that *P. vulgare* occurs at all given its slight preference for colder, acid sites. Other notable occurrences are *Adiantum capillus-veneris* (three sites) and *Asplenium ceterach* (six sites, one with 200 plants). None of the exotic species are truly common, most occurring just once or twice. Many are considered hardy and must be garden escapes but others such as *Doodia australis* or *Adiantum raddianum* are not hardy and are presumably house plant escapes. The temperature in central London, about six degrees centigrade warmer than the surrounding countryside, enables these plants to colonise here and there.

Following the AGM, in Fred Rumsey's absence, Tim Pyner read Fred's paper on 'Alien ferns in the British flora'. The definition of what exactly is an established fern presented some difficulty! Is a plant that spreads unaided in a garden established or should the term be reserved for records of exotic ferns established in a wild environment? *Cyathea dealbata* is on the list on the strength of it successfully reproducing itself at Rosdohan in south-west Ireland. On this basis many other species could be added, e.g. *Dicksonia lanata* is setting sporelings in quantity in Inverewe Garden in north-west Scotland, while in my own Midlands garden *Cyclosorus tottoides* is appearing quite frequently remote from the parent plant. Overall 36 species of

exotic fern have been recorded as established somewhere in the British Isles. Most of these are truly established in wild sites. Apospory is believed to be a very useful method of reproduction for plants out of their natural range and indeed all bar seven of the recorded aliens are capable of reproducing apogamously. The earliest recorded alien 'fern' is *Equisetum ramosissimum* from Hounslow Heath in about 1705 (if it is indeed an alien!). The most commonly recorded is probably *Azolla filiculoides* although it rarely persists very long at any given site. The most commonly misrecorded fern is *Cyrtomium falcatum* in error for *C. fortunei*.

The final presentation was again given by Matt Busby on the 'Relic flora of Birmingham Heath'. It was fascinating to be reminded that most of the Birmingham area was once covered by heathland. Away from Birmingham town centre, Cannock Chase and Sutton Park are ample proof for the doubters! While surveying the urban ferns of the Birmingham area, Matt came across a small area of heathland in the middle of an intensely industrialised area alongside a canal. It was in the Galton Valley Canal Park along Telford's canal near Smethwick. An undeveloped site here was mainly grassland but one small patch of more typical heathland species persists. Most notably, the locally very rare *Oreopteris limbosperma* persists in small numbers by a footpath. Normally a plant of pure mountain sides in higher rainfall areas, the occurrence of this plant in what is normally considered to be a polluted industrial environment is truly remarkable.

FERNS & FOSSILS EVENT, RBG EDINBURGH – 24-25 September

Frank McGavigan

Following the Ferns and Fossils day at Manchester University Museum in 2009, the Education Subcommittee had decided to repeat the experience over a weekend at the new John Hope Gateway at Royal Botanic Garden Edinburgh. It was a huge success, with well over 800 participants and three new recruits to the BPS.

With the active support of RBGE itself and of the National Museum of Scotland, we were able to display fern and lycophyte fossils (some of which could be handled and viewed under microscopes) and large specimens of living ferns and lycophytes, including a *Marattia* (a direct descendant of the earliest ferns) and a magnificent, much-admired *Lophosoria quadripinnata*. Exhibits included demonstrations of dancing *Equisetum* spores and of the hydrophobic nature of *Lycopodium* spores (one of nature's wonders that both children and adults loved). We showed those interested (and there were many) how to sow spores (Mary Gibby's flick of the paper method I'll need to try for myself) and gave advice on which ferns to grow where.

Children's activities ranged from 'colouring in' dinosaur outlines to making Victorian fern cards using pressed fern fronds. Some of the results were really very impressive. There were toy dinosaurs to play with, including two robotic models supplied by the museum, and a dinosaur jigsaw. And, of course, there were quizzes each day for younger children, older children and adults, with the solutions to be found in the room. I did not attempt them, worried that I would be embarrassed by not knowing the answers, but there were plenty who were less afraid than I.

However, much the most interesting feature (for me at least) was the series of wall posters prepared by Heather McHaffie (RBGE generously allowed her to do this in work time). Light-hearted without being patronising, intelligent without being unintelligible, they were models of how posters aimed at the interested general public should be. They covered the origins of ferns, what is a fern, the fern life-cycle, fern structure, spores, tree ferns, water ferns, whisk ferns, clubmosses and their ancestors, etc. The series on the fern life-cycle were the clearest explanation of this phenomenon that I have seen. Another poster (this one prepared by Chris and Alison Evans) showed the time line from the formation of the earth (a sobering 4,500 million years ago) to the present, with indications of when the first fern-like plants and the ancestors of modern ferns appeared (300 mya).

Perhaps the least successful part of the weekend was the talks, not because of the speakers or the subject matter, but because they took place in a separate room upstairs that was difficult to find, which meant attendances were poor. Subjects covered were: *The secret life of ferns* (given by Heather McHaffie), *Ferns, fossils and dinosaurs* (Christine Thompson and Sarah Stewart), *The Victorian fern craze* (Mary Gibby and Jennifer Ide) and *Ferns to grow in your garden* (Alastair Wardlaw and Alison Evans), so no shortage of interest or expertise there. Just hard to locate.

But overall the weekend proved a great success, made possible through the sponsorship of RBGE, the huge amount of preparatory work done by Heather and the help from BPS members and a lot of volunteers mustered by Heather from among her students. Our grateful thanks must go to them all.

AUTUMN MEETING, RBG, KEW – 29 October

Pat Acock

Twenty-nine of us gathered at Kew's Victoria Gate and were met by our host for the day, Nigel Rothwell. After a cup of tea or coffee in the Lower Nursery, Nigel gave a very informative and extensive demonstration of fern propagation. I felt we all learnt something new during the spore collecting and sowing part. Our newer members in particular were full of questions to which Nigel always had an answer, which showed his great experience in this field. He demonstrated his method of separating the chaff from the spores by first running the material from the collecting packets down a clean sheet of white paper held at 45 degrees and tapping the material remaining to a central three-inch circle on that paper. There was then an audible gasp as he inverted the paper to remove the rest of the chaff. On re-inversion he showed the smudge of cleaned spores still clinging to the paper and awaiting sowing onto compost.

He then spoke about vegetative means of propagation using pieces of rhizome, proliferous buds or propagules. Finally, as people had mentioned the various Marattiaceae plants surrounding us, he showed how these were propagated from the base of the frond stipules. We were then allowed to wander around the two fern houses; Nigel was available for questions and also showed us how to collect the Marattiaceae stipules.

After lunch we reassembled outside the Princess of Wales Conservatory where Nigel led us around the various zones, pointing out ferns of interest and taking questions on a range of subjects from family affinities to propagation and cultivation of the more difficult groups of ferns. Realising that time was getting on, we hastened to the Temperate House where we looked at the small collection of New Zealand and Australian ferns. Tim Pyner found *Phymatosorus diversifolius* growing up one of the *Dicksonia antarctica* plants. We moved rapidly on to the Palm House where we were told a little about the cycads by Nick Hards before seeking out the ferns. From here we dispersed.

photo: B.D. Smith

Nigel Rothwell in the Princess of Wales conservatory, RBG Kew

It was very good to see a number of our newer members and to see how enthusiastic they were. I do hope that we will not only see them again soon but also find them taking an interest in helping to move the Society forward with their ideas and expertise.

REGIONAL MEETINGS

BOTANICAL CORNWALL GROUP

Ian Bennallick & Matt Stribley

Days with a particular fern interest are detailed below. Other trips had a more general plant recording aim, but a few notable fern records were made. On 1st May we found a few plants of *Asplenium marinum* in rock crevices at Vicarage Cliff, near Morwenstow (21/1986 1543), this being new to 21/11. *A. marinum* is rare or under-recorded along the Cornish coast north of Bude, due partly to the steep and high (up to 700 feet) cliffs making surveying particularly difficult and partly to the lack of suitable rocks that are not continually eroding – rock falls are frequent here and it is probably difficult for *A. marinum* to get a foothold. On 24th July a large population of *Oreopteris limbosperma* was found on a north-facing slope above a stream on the north side of Caradon Hill (20/2771), with hundreds, if not thousands, of plants over hundreds of metres amongst bracken and scrub. Though recorded here before, and not uncommon on Bodmin Moor, the number and luxuriance of the plants were notable.

Looe (20/2454) & Berry Down (20/1969), East Cornwall – 13 February

With Met Office storm warnings given for the day, it was surprising that seven members turned up at the Millpool car park in West Looe at 10a.m. Luckily, the forecast heavy rain and high winds had not arrived so we started our short walk west along the path towards and through Kilminorth Woods. We hoped to find the very small colony of *Hymenophyllum tunbrigense* first recorded near here by Francis Rose in 1985 and last seen in 2006. The paths were slippery and some of the steep steps tested even the fittest of the group. Along a bank (20/244541) we found several plants of *Dryopteris aemula* – the winter-green fronds showing well, with *Blechnum spicant*. Where the path runs midway along the north-facing sessile oak wooded slope above the West Looe River, some rock outcrops protrude above the ground flora of bilberry and great woodrush. The winter had so far been cold and dry, and the various mosses on the faces of the outcrops were desiccated; it was amongst these that *Hymenophyllum tunbrigense* had been recorded. Only Matt Stribley and Ian Bennallick managed to clamber up the slippery slopes, and after hunting for the right spot, the small colony was located in a crevice on a rock outcrop at 20/2433 5432. It was very dry and shrivelled but has managed to survive here for many years. Immediately above the filmy fern was a large holly tree, so it was suggested that rain falling on the tree may funnel down the trunk and dribble over the outcrop below, thus providing enough shelter and moisture for the fern's survival. Examination of other outcrops showed them to be very dry, but Matt did manage to find a small patch of *Trichomanes speciosum* gametophyte at 20/2431 5430.

At lunchtime the rains and wind arrived so the group called it a day. However, Matt and Ian took a detour on the way home and visited a site west of Liskeard on the southern part of Bodmin Moor where both *Hymenophyllum tunbrigense* and *H. wilsonii* had last been recorded in 1997, the only site for 20/16. The rain had stopped and though windy it was no worse than any typical winter day in Cornwall when we parked along the road near Berry Down and walked up a stony track towards the rock-strewn summit and granite tor. All possible locations were checked, crevices between rocks were peered into and overhangs examined. Despite being grazed, the site was quite overgrown with bracken, bilberry and bramble, but we did find *H. tunbrigense* in four places – three separate rock crevices (four patches) in 20/196690, and one patch at 20/1966 6911 growing with *H. wilsonii* among mosses in a more exposed part of the rock-face.

Area North-West of Minions, Bodmin Moor (20/2571) – 3 July

The day was gloriously sunny and nine people met at the car park at Minions, a village with a mining history high on Bodmin Moor. One of the aims of the day was to locate *Hymenophyllum tunbrigense* at Tregarrick Tor (20/241712), last seen here in 2002 when Paul Green found a patch 16 inches by four inches on the western side of the tor. Despite five of us looking in every

possible crevice and between the rock clitter, we could not find it, though with the dry spring it may have dried up, so a further visit in winter 2011/2012 is planned. Although the moorland vegetation here is well grazed by cattle, ponies and sheep, in an old tin-streaming gully to the west (20/253710) we saw several plants of *Oreopteris limbosperma* amongst bracken.

The highlight of the day, and probably of the year, was the most unexpected discovery by Tim Purches of a colony of *Phegopteris connectilis* along the base of a granite bank beside a stream north of Trewalla, on Craddock Moor (20/2459 7138). Seen from a distance, the ferns were first judged to be more *Oreopteris* (in its typical habitat here on Bodmin Moor), but when seen close to, it was clearly *Phegopteris*, the estimated 400 fronds spreading along for a few metres close to the stream. This site was new to 20/27 and is many kilometres away from the other Bodmin Moor site on Brown Willy (20/1579 and 20/1679) where beech fern was confirmed for Cornwall in 2010, having last been seen in the 1930s (see *Bulletin* vol. 7 no. 3 pp. 233-235). This latest discovery makes the possibility of other sites for this species likely and further surveys on Bodmin Moor are planned for 2012.

photo: I.J. Bennallick

***Phegopteris connectilis* on Craddock Moor**

Carn Galver (10/4236), West Cornwall – 28 August

Following the rediscovery of *Phegopteris connectilis* on Brown Willy in 2010, an attempt to refind it on Carn Galver in West Cornwall (10/43) was made. Five members met in sunny but cool and windy weather and battled their way through bracken, gorse and bramble along a well worn but boulder-strewn path towards the summit of the high granite tor. The views from the top were wonderful, the Atlantic Ocean below and the western heath on the tor yellow and purple with gorse and heather. John Ralfs found *P. connectilis* "at the base of Carn Galva" (Carn Galver) before 1879, so the group split up and explored suitable crevices between the granite outcrops and granite clitter. The north-eastern side of the tor was surprisingly precipitous, and with lack of grazing the vegetation was mostly mature and leggy bell heather, ling, bilberry and gorse, making it particularly difficult to wade through. The conditions were similar to those on the summit of Brown Willy but much drier than the site on Craddock Moor. Despite a good look we could find no beech fern, though *Dryopteris aemula* was found at 10/4271 3605 in its exposed but humid 'tor habitat', quite different from the usually damp and shaded stream or hedge banks in the deeper valleys. Matt Stribley suggested looking for *Phegopteris connectilis* in the spring before the bracken has had a chance to mature – here it was head-height in places. So although it has not been seen for many years we have not given up hope!

On the way down we picked out way over some large and angular granite boulders – careful not to disappear down between them – to look for *Hymenophyllum tunbrigense* and *H. wilsonii*, both seen here in 2008. We located them at 10/4265 3648 and, as on Berry Down on February 13th, the *H. wilsonii* was found amongst moss on the top of the boulder in quite light conditions, with the *H. tunbrigense* well down in the shaded crevice.

EAST ANGLIA

Indoor meeting, Little Thurlow, Suffolk – 29 January — Tim Pyner

Twenty-three members gathered for our regular mid-winter meeting, where we had the pleasure of the editor of the *Pteridologist*, Alec Greening, presenting a talk on 'Ferns of the Cook Islands'. Alec started by giving us the background on his enthusiasm for ferns and how finding royal fern and meeting Reg Kaye led to his interest developing into a passion.

The Cook Islands are a self-governing group of 15 islands consisting of both volcanic peaks and coral atolls located in the South Pacific between Tonga and Tahiti. Alec and his wife Linda started their trip on the largest and best known island, Raratonga. It reaches an altitude of 658 metres and the interior is rocky with wet forest. Of the 101 fern species found in the Cook Islands, 96 occur on Raratonga. Amazingly, these ferns account for 45 per cent of the island's native flora, which can be accounted for by the young age of the islands, Raratonga being only 1.5 million years old. Alec gave us a brief history of the botanical exploration of the islands, which began with the visit by T.F. Cheeseman, the famous New Zealand-based botanist. Alec was keen to find the tiny eponymous *Grammitis cheesemanii* but was out of luck. However, he was able to show a picture of a herbarium specimen. He did find the only tree fern, *Cyathea decurrens*, the splendid epiphytic *Ophioglossum pendulum*, *Acrophorus raiateensis* and the only endemic species, *Asplenium parksii.* All these and many more were beautifully photographed and we really got a feel for the location and habitats.

After the break for refreshments, Alec concluded with some slides of a variety of fern oddities, entitled 'Parafernalia', that he has noticed over the years. These were very interesting and in some cases, most surprising.

I would like to thank Alec and Linda for sparing the time to travel a long distance and for providing such a fascinating presentation, and Mary Hilton for once again hosting the meeting.

Bixley Decoy Pond, Ipswich Golf Course, Suffolk – 23 July — Tim Pyner

The idea for this meeting came from a chance comment by Martin Rickard that he thought he was the last person to record *Dryopteris cristata* at its remaining Suffolk site at Bixley Decoy Pond (62/203429) in the 1970s. With a little persuasion Martin agreed to lead this meeting to try to refind crested buckler fern.

Twenty members met in the golf course car park on a dry but surprisingly chilly day. We set off for the nearby decoy ponds while trying to avoid both antagonising golfers and wayward golf balls. Large banks of bracken (*Pteridium aquilinum*) clearly indicated the acid nature of the soil. As we approached the ponds, male (*Dryopteris filix-mas*), broad buckler (*D. dilatata*) and narrow buckler ferns (*D. carthusiana*) started to appear. The main pond was very overgrown, with many fallen trees, nettles and brambles. Lady fern (*Athyrium filix-femina*) was frequent, however, we were unable to find *D. cristata*; a visit in winter when the nettles have died down may be more productive. Our struggles through the undergrowth did eventually produce a handsome reward when we stumbled across a large colony of marsh fern (*Thelypteris palustris*) (62/2011 4290). Although recorded from this site in the past, the size and extent of the colony came as a complete surprise. Covering at least 100 square metres, the fern dominated an area of swampy sallow carr. The group had by now broken up but some of us saw marsh horsetail (*Equisetum palustre*) by the edge of the pond before we met up for lunch by the cars.

After lunch we moved on to East Bergolt Place. This is a well established garden and arboretum that has a fascinating collection of rare trees. Ferns are a feature of the garden and *Dryopteris filix-mas* forms large clumps in the grassy paths. Some puzzling *D. affinis* agg., probably *D. borreri*, were also seen. *Athyrium filix-femina* was frequent along ditches. Cultivated ferns included a grove of *Dicksonia antarctica*, many clearly badly affected by the previous cold winter. However, at least one was growing well, with a full crown of

fronds. Other ferns in the gardens included good examples of *Osmunda regalis*, *Onoclea sensibilis* and *Matteuccia orientalis*. The group finally dispersed after a very satisfying day.

I would like to express my thanks to Neil Sherman of Ipswich Golf Club who arranged our visit to the golf course.

Swanton Novers NNR, Norfolk – 17 September **Bryan Smith**

photo: B.D. Smith

Swanton Novers NNR, Norfolk

Michael Radley, Howard Matthews, Tim Pyner, Alex Prendergast, Ash Murray, Dick Lincoln, Julie Reid, Gill Smith, Anna Lincoln, Bryan Smith

Swanton Novers Woods is a National Nature Reserve of some 84 hectares, comprising four woods. Nine members met at a nearby car park (63/020322) to explore the largest of these, Great Wood. Currently, public access is not permitted, so we were fortunate to have as our guide Ash Murray, Senior Warden of the reserve for whom we hoped to provide new fern data. Ash gave us an informative introductory talk. The woodland is Post-glacial and includes native sessile oak and non-native larch. It is an important nesting site for honey buzzards, a sub-Saharan native that had left for Africa by the time of our visit. Before setting off to explore for ferns, we were given copies of an Emergency Plan and site map in case any of us got lost! The fern that was of most interest was *Oreopteris limbosperma*, of which we soon found several healthy plants; this is a rare fern for East Anglia. During the rest of the morning we saw good plants of *Blechnum spicant*, *Dryopteris carthusiana*, *D. dilatata*, *D. filix-mas*, *D. borreri*, and a couple of plants of *Athyrium filix-femina*. Also, on oaks, we found two colonies of *Polypodium vulgare* (which Tim Pyner later confirmed by microscopic examination), and of course there was plenty of *Pteridium aquilinum*. Though outside the reserve, it should also be noted that Howard Matthews found two colonies of what was likely to be *Polypodium interjectum* (63/023313 and 63/020318).

On the way home, several of us stopped at Amulree Exotics Nursery, Fundenhall (62/157971), where we met the owner, Simon Gridley. The nursery had a good range of tree ferns, palms and other exotic plants, and we were able to benefit from an end-of-season fifty per cent discount! All-in-all, another successful East Anglia Group meeting.

Indoor meeting, Oulton Broad, Suffolk – 22 October **Tim Pyner**

Nineteen members attended our regular autumn meeting hosted by Gill and Bryan Smith. This is always a friendly, informal occasion when we socialise over some wonderful food prepared and served by Gill and Karen Munyard. The day was mild and dry and we were able to spend some time in the garden admiring the ferns that were thriving despite the dry summer. Once the light started to fade we gathered around for members' photos of ferns, meetings and ferny holidays through the year. This is always very interesting, particularly for those who missed meetings. Thanks once again to Bryan and Gill for making us all very welcome and providing such good refreshments.

MANCHESTER AND NORTH MIDLANDS

Wolfscote Dale & Beresford Dale, Derbyshire – 28 May **Pamela Simpson**

Five members, well equipped with waterproofs, met on an unpromising day at Beresford Cottage (43/127586), just south of Hartington on the west side of the River Dove. We immediately started the pteridophyte list with *Equisetum arvense* on the roadside and *E. palustre* in an adjoining damp field. First we walked north along Beresford Dale, where we found *Athyrium filix-femina* and *Dryopteris filix-mas* beside the river. It was not long before we added *Polystichum aculeatum*, *Polypodium vulgare*, *Asplenium trichomanes*, and *A. scolopendrium* on the steep river bank. *Polypodium interjectum* grew on the opposite (east) bank of the river, and further along we found a flourishing colony of *Cystopteris fragilis* on an old wall. *Dryopteris dilatata*, growing at the base of a tree, completed our list for this limestone dale.

The weather had much improved as we retraced our steps, and the rest of the day was dry and pleasant, though windy. Back at our starting point, we crossed the river and took the path through Wolfscote Dale, south-east along the River Dove. Here we soon found *Equisetum arvense* and *Dryopteris filix-mas* again, plus *Asplenium trichomanes* and *A. ruta-muraria* on the rocks before starting our main task of the day, which was to monitor the colony of *A. ceterach* on the limestone outcrop on the east bank of the Dove. Eight plants were easily observed from the path at an outlying site (43/136574) just before the main site where thirty more plants formed a healthy colony (43/138571). To count these we needed to climb ten to thirty feet up the valley side. All were photographed and their positions noted. *Cystopteris fragilis*, *Polypodium interjectum*, *Athyrium filix-femina* and *Dryopteris dilatata* were also seen in this dale. A small stream near the end of our walk (43/128583) provided a possible hybrid of *Equisetum palustre*.

Cave Dale & Abney Clough, Derbyshire – 6 August **Yvonne Golding**

There were only four of us on this meeting: Dave Bishop, Ann Haskins, Roland Ennos and me, but we covered a lot of ground and did some useful survey work. We travelled to Castleton and walked up into Cave Dale, which is a very picturesque and romantic limestone valley overlooked by the now-ruined Peveril Castle of 'Peveril of the Peak' fame - the longest of Walter Scott's novels. There was a large clump of *Dryopteris filix-mas* at the beginning of the walk, which has been there for quite a few years. The usual limestone ferns were present in abundance: *Asplenium ruta-muraria*, *A. scolopendrium*, very lush *A. trichomanes* agg. in an old mine shaft, *Cystopteris fragilis* and *Polypodium interjectum*. Our task for the day was to monitor the large colony of *Asplenium viride* in limestone clefts quite close to the path near the top of the dale at altitudes ranging between 1,117 and 1,200 metres. The colony begins around 43/1429 8204 and continues to 43/1433 8206. The plants were too numerous to count and in some clefts were growing intimately with *A. trichomanes* subsp.

photo Y.C. Golding

Cave Dale, Derbyshire

Ann Haskins, Roland Ennos, Yvonne Golding, Dave Bishop

quadrivalens and *Cystopteris fragilis*. While surveying we overheard an amusing observation uttered by some passing (clearly serious) walkers – "why stop when you don't need to"!

After lunching in Castleton in the sunshine, we drove south-east across the dales to the dark peak and the hamlet of Abney, which lies south-west of Hathersage on the high gritstone moors above the Hope Valley. Abney ('habenai' in the Doomsday Book) belonged to William Peveril – thought to have been an illegitimate son of William I – who fortified Peveril Castle in 1060, so we had a historical link with Cave Dale. We dropped into Abney Clough, a steep wooded valley through which runs a peat stream. On the approach to the clough was a most wonderful bank covered in purple betony, much loved by the numerous butterflies, and at the bottom of the bank the stream was lined with a profusion of yellow *Mimulus*. Soon after entering the clough (43/2058 7978) we dropped down the bank to find the colony of beech fern (*Phegopteris connectilis*) that was originally found by Alan Willmot in 1982 (see *Bulletin* 2(4): 176). Along the Clough other ferns included *Athyrium filix-femina*, *Blechnum spicant*, *Dryopteris cambrensis*, *D. dilatata* and *Oreopteris limbosperma*, with *Polypodium vulgare* growing epiphytically on the trees and *Pteridium aquilinum* out on the moorland. Sadly, we did not refind the oak fern (*Gymnocarpium dryopteris*) or the single plant of *Asplenium adiantum-nigrum* reported in 1982. Further along the path, growing in a wet flush above Stoke Ford, was an unusual *Equisetum* that is still to be identified.

This site had made an interesting and rewarding contrast to the limestone scenery of Cave Dale. We sat by the stream in the sun before returning to Abney and driving back to Buxton in the rain.

Monsal Trail, Derbyshire – 3 September **Dave Bishop**

The Monsal Trail is a 20-kilometre-long walking and cycling trail in the Derbyshire Peak District. It follows the path of the former Midland Railway westward from the vicinity of Bakewell to a point close to the A6 about three kilometres from Buxton. For about two thirds of the route the trail is elevated above or runs beside the River Wye.

While waiting at the old Miller's Dale station (43/139733) for the group to assemble, those of us who had arrived early were diverted by the fine display of late summer flowers on the old railway platforms. One of the important plants of the White Peak, *Polemonium caeruleum*, was present but in fruit, nevertheless the flowers of such plants as *Sedum telephium* and *Linaria repens* served to whet our botanical appetites. The edges of the platforms yielded such pteridophytes as *Asplenium trichomanes* subsp. *quadrivalens*, *A. ruta-muraria*, *A. scolopendrium* and *Cystopteris fragilis*.

photo: Y.C. Golding

River Wye, Chee Dale, Derbyshire

Roland Ennos, John Grue, Dave Bishop, Ann Haskins, Pamela Simpson

Eventually we set off westwards along the trail, by the sides of which we found *Dryopteris filix-mas*, *D. borreri* and a relative abundance of *Polystichum aculeatum*. Just before the newly reopened former railway tunnels under Chee Tor, we found what we believed to be two different polypodiums but both turned out to be *Polypodium interjectum*, and there was more *Cystopteris fragilis* growing on the trackside rock-faces. After the tunnels we noticed fine colonies of *Asplenium ruta-muraria* and *A. trichomanes* subsp. *quadrivalens* growing on the low walls of the bridge. We then descended down a steep path into Chee Dale. On the opposite bank of the River Wye we spotted an unusual clump of *A. scolopendrium* with wavy-edged, forked leaves. On riverside rock-faces we saw two plants of *A. viride* and a single specimen of *Gymnocarpium robertianum* (43/124732). Also present in woodland was *Dryopteris dilatata*. At one point we stopped to chat to a fly fisherman who was fishing for brown trout; these fish were plainly visible in the river but did not appear to be biting.

After a pleasant lunch by the river we drove to the village of Litton Mill. We crossed the Wye on a footbridge, pausing to admire a rainbow trout in the water. We then made our way up to that part of the Monsal Trail below Ravenstor. We were aware that *Dryopteris submontana* had previously been recorded from this area, growing on the steep limestone 'cliffs' of the old railway cutting. A key objective of our walk was to monitor this species in what is one of its most southerly locations (43/157730). We found five plants in total, which was fewer than in previous years; one was easily seen at eye-level but the others required binoculars. We concluded that a probable reason for the decline was that the cutting face was becoming overgrown with ash saplings.

Before returning to the cars we decided that a fine specimen of the *D. affinis* group was probably *D. cambrensis*.

Chatsworth, Derbyshire – 22 October

Yvonne Golding

Organising an outdoor meeting near the end of October was taking a chance, but it turned out to be a most glorious autumn day. After coffee we made our way through Chatsworth gardens to the site of The Great Stove House. All that remains today of the magnificent Joseph Paxton Conservatory are the sandstone foundations, which have been colonised by wall rue, hart's tongue, maidenhair spleenwort and brittle bladder fern. I had arranged with the Head Gardener for us to descend into 'The Fern Pit', which was visited by the Yorkshire Fern Group in 2008 (see *Bulletin* 7(1) p.37 and *Pteridologist* 5(2) p.125.) This chamber is part of an extensive ventilation system that served the great conservatory; it is about ten feet deep and only large enough to accommodate about six fern enthusiasts. The ferns did not seem as lush as the 2008 pictures indicated but we were much later in the season and the walls did seem to be quite dry. Even so, some ferns were plentiful and freely sporing, particularly *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens*, *Cystopteris fragilis* and *Dryopteris filix-mas*, together with *Athyrium filix-femina* and *Polystichum aculeatum*. *Selaginella kraussiana* was pretty well established and to our delight, despite two very hard winters in Derbyshire, there was still some *Pteris cretica*, some of which was fertile, though we were disappointed not to find the crested forms reported in 2008.

We made our way to the coal pit, a much larger and deeper stone-lined bunker (with easier access) where ferns were freely sporing all over the damp moss-lined walls. Of particular note was some very fine, large-fronded *Cystopteris fragilis* and plenty more *Selaginella kraussiana*. A small sparse colony of *Equisetum arvense* had become established in the base of the pit. We made our way through a tunnel – 'enhanced' by scary spider's webs and plenty of pumpkins as our visit coincided with a 'Halloween Hoot' – and emerged into the rock garden. On the tunnel wall near the exit were several plants of a particularly attractive and foliose maidenhair spleenwort. The extensive rockwork was built in the 1840s by Paxton and his team. Huge towers of rock intercepted with many narrow paths gave magnificent views

over the house and gardens and supported large stands of *Polypodium interjectum* and all the other ferns we had seen on the conservatory foundations. In addition we noted a single large plant of *Blechnum spicant* growing by the water's edge with plenty of *Osmunda regalis*. There was also a fine colony of *Polystichum munitum* looking very natural growing out of a cleft in the rockwork, and nearby were impressive plants of *Dryopteris borreri* and *D. affinis* 'The King', as well as *D. dilatata*, *D. filix-mas*, *Athyrium filix-femina* and *Polystichum aculeatum*. Alan Willmot also spotted some convincing *Polypodium vulgare*.

photo: Y.C. Golding

In the coal pit, Chatsworth, Derbyshire

Pamela Simpson, Alan Willmot, Roland Ennos, Alison Evans, Eily & Paul Ruston

After lunch amongst the rockwork we explored the Sensory Garden. Additions to our list included *Polystichum setiferum* and a large sparsely sporing *Polypodium*, possibly *P.* × *mantoniae*. In the kitchen garden the greenhouse walls were very good for wall rue and polypods, which, although very variable, all turned out to be *P. interjectum*. We next went in the glasshouse, only recently opened to the public. The first part was quite cool and housed part of the Duke of Devonshire's extensive *Camellia* collection. The middle section was warmer, with a *Microlepia* growing around the base of *Dicksonia antarctica*, *Phlebodium pseudoaureum*, *Blechnum occidentale*, *Pellaea viridis*, several *Pteris cretica* cultivars, a large unidentified exotic *Polypodium* and plenty more *Selaginella*. The third section, which sadly is not open to the public, houses a pond with impressive 'Victoria' water lilies. We peered through the glass and in the dense tropical foliage we spotted stag's horn fern, bird's nest fern, *Nephrolepis* and more *Phlebodium*. We walked along the long water and into the wooded area. By the bridge at the top of the Himalayan Valley was a good clump of *Polypodium* that had a proportion of irregular-shaped spores and so could also be *P.* × *mantoniae*. This will be monitored, together with the specimen in the sensory garden. Finally, we were able to add *Pteridium aquilinum* to our list.

We covered a lot of ground but there is still more to explore at Chatsworth. Some of us enjoyed a fine tea put on by Pamela Simpson at her home in nearby Darley Dale. Many thanks go to Head Gardener Steve Porter for allowing us access and to Duty Manager Mark Rhodes for supplying the ladder!

NORTH-WEST

St Bees Head, West Cumbria – 25 June

Mike Canaway

This interesting and eclectic visit to St Bees Head was led by Mike Porter. Fourteen members met at Tarnflat Hall (25/948145), Sandwith, north of St Bees, and after giving us an introduction, Mike led us down towards the coastal path. Alongside the track we soon encountered *Athyrium filix-femina*, *Dryopteris dilatata*, *D. filix-mas* and *Equisetum arvense*. Rounding a corner with *Pteridium aquilinum*, we encountered an area of burnt gorse where some of the species we had seen earlier were regenerating along with *Blechnum spicant* and a number of colonies of *Polypodium* that were later determined microscopically by Bruce Brown to include both *P. interjectum* and *P. vulgare*.

Reaching the coastal footpath, a small party comprising Bruce Brown, Mike Canaway, Peter Campion and Mike Porter descended a steep gully to explore a terrace about ten metres below the cliff path (25/949151), with other members of the group giving directions from above to plants of interest. Well grown plants of *Athyrium filix-femina* and *Dryopteris filix-mas* were again seen, as was *D. borreri*, but more significantly about ten colonies of *Asplenium marinum* were found, not recorded here previously as they were not clearly identifiable from the path.

Back on the main path, members were delighted with the abundant wild flowers such as *Genista tinctoria*, *Geranium sanguineum*, *Jasione montana* and *Silene maritima* to name just a few; not forgetting the wonderful views over the sea about 30 to 50 metres below. Passing through further stands of *Pteridium aquilinum* and *Athyrium filix-femina*, we reached the St Bees Head RSPB reserve with its viewing platforms, which members took advantage of to watch the circling gulls, kittiwakes, guillemots and razorbills.

The highlight of the day was near this area, namely the site of *Dryopteris aemula* growing on very steep grassland leading down from the path towards unseen precipices further below (25/941147). Some members descended to see the plants at close quarters with their crisped-up pinnules and dark brown lower stipes. The plants were relatively small, about 25 centimetres tall, due to their extremely exposed location and were duly recorded and photographed. Associated with the *D. aemula* were a number of other ferns, namely *D. dilatata*, *Athyrium filix-femina* and *Blechnum spicant* plus occasional plants of *Polypodium* sp. and *Pteridium aquilinum*.

We continued towards Fleswick Bay (25/945133), passing further bird-watching platforms. At the bay some colonies of *Asplenium marinum* were seen on the cliffs, but too high up for close inspection. A sea-cave and some promising dark openings in the ground were checked for the gametophyte of *Trichomanes speciosum* but all results were negative.

Members enjoyed some seaside time looking at interesting rock formations and the selection of pebbles of varying geological origin before returning by a shorter route. This proved productive as some additional fern taxa were seen en route: *Asplenium adiantum-nigrum*, *A. ruta-muraria*, *A. trichomanes* subsp. *quadrivalens* and *A. scolopendrium*. This rounded off a most memorable visit to an area which the group had last visited some 16 years previously.

Gait Barrows, Lancashire & locations around Arnside, Cumbria – 9 July

Frances Haigh

The limestone pavements and wooded areas of Gait Barrows NNR provide habitats for a variety of butterflies and an interesting flora, including orchids and, of course, ferns. There is open access at 34/478776, though we had permission to enter at 34/483777. We soon found *Asplenium ruta-muraria*, *A. trichomanes* subsp. *quadrivalens*, *A. scolopendrium* and *Polystichum aculeatum* but were disappointed not to find *Asplenium adiantum-nigrum* and, at first, *Gymnocarpium robertianum*, last recorded about 20 years ago. Following the trails we came to *Dryopteris carthusiana*. My records said that *Polystichum setiferum* was nearby

but despite searches over broken ground none was found. Instead, *Asplenium ceterach* and a *Polypodium* sp. were pleasant surprises. A search of more pavements revealed, at last, *Gymnocarpium robertianum* growing in a gryke. Further on were the grey-green clumps of *Dryopteris submontana*, also in grykes. Also a second site for *Asplenium ceterach* was noted but this was in danger of being trampled as it was close to the trail. A final diversion to see *Polystichum setiferum* revealed also *Dryopteris filix-mas*, *D. dilatata* and *Pteridium aquilinum.*

After lunch we explored Grubbins Wood (34/444777) a local reserve close to the shore. Despite the limestone rock much of the soil is acidic. We soon found *Asplenium adiantum-nigrum* thriving in a cleft in low-lying rocks. The top path led us to *Blechnum spicant*, *Athyrium filix-femina*, *Dryopteris borreri* and *D. dilatata* and, on rocks, *Asplenium trichomanes* subsp. *quadrivalens* and even two plants of *D. submontana*, not growing in a gryke but obviously getting sufficient shelter. We wondered if a large *Polystichum* nearby might be the hybrid *P.* × *bicknellii*, but Bruce Brown let me know later that the spores were fertile and so it was just a large *P. setiferum*. Some low-lying ferns, triangular deltoid in shape, raised a query: *Gymnocarpium dryopteris* or *G. robertianum*? Glands on the frond and rachis confirmed it to be the latter. Now going downhill, we came across *Oreopteris limbosperma*, *Dryopteris affinis*, *Polystichum aculeatum* and large numbers of *Asplenium scolopendrium* but a record of *Ophioglossum vulgatum* near a pond could not be confirmed.

Now it was time to go to Melville Thomson's delightfully informal garden and take refreshments in the shade of an apple tree. Melville has a wide range of ferns, from several large *Osmunda regalis* to small *Athyrium filix-femina* 'Frizelliae'. Two small ferns growing on steps were the cause of debate; examination of the frond shape and later, spores, suggested *Cystopteris fragilis*. But pride of place had to be given to a large *Polystichum* recently removed from its garden position (with much difficulty) and now split and potted up. This plant had been given to Melville by his grandfather and seemed unlike any other that we knew about. Its dense feathery fronds suggested that it may have been a *P. setiferum* belonging to the Plumosum Group.

Finally, a few of us walked along Arnside promenade, passing *Polypodium interjectum* on a wall on our way to examine *Adiantum capillus-veneris* growing on a tufa-covered section of the cliff (34/451783). The severity of the past winter had reduced the plants to a mass of grey shrivelled fronds so it was good to note that a few new green shoots were developing and we hoped it would soon get back to its former state.

Witherslack Valley, South Cumbria – 13 August **Alison Evans**

Twelve of us met by the entrance to Witherslack Hall School, pleased to have a dry if overcast day. We recorded four taxa before we left the parking place (34/4370 8597): *Asplenium ceterach*, *A. ruta-muraria* and *A. trichomanes* growing on the walls, and a little polypody, too small to identify, on the wall by the gate. Alec Greening had prepared a very useful laminated guide to the sites, with numbered locations on a map on one side and a list of the sites and species on the other. We headed across a field to High Crag Wood, where a wet flush at 34/4403 8617 yielded *Dryopteris borreri*, *D. dilatata*, *D. filix-mas*, *Athyrium filix-femina*, *Pteridium aquilinum* and *Blechnum spicant*. We spent some time examining a scaly male fern, *Dryopteris affinis*, wondering if it could be subsp. *paleaceolobata*. Continuing through the wood we noted *Asplenium scolopendrium* and then came to a clearing with extensive patches of *Phegopteris connectilis* (34/443859). A little further on we found *Dryopteris carthusiana* (34/4431 8588) and then alongside the path near a spring were some large specimens of *Blechnum spicant*. We eventually reached the Hikers' Rest 'honesty' café - unmanned and open 24 hours a day – where we made ourselves a cup of tea. After putting our tea money through the letter box of the nearby cottage, we set off through the fields back to the road, noting *Equisetum arvense* and then *Polypodium vulgare* (confirmed later by Bruce Brown) on the roadside at 34/4374 8561.

photo: C. Evans

Witherslack, Cumbria

Alec Greening, Denise Copson, Ann Haskins (*behind Denise*), Bruce Brown, Alison Evans, John Grue, Mike Canaway, Robert Crawford, Frances Haigh, Roy Copson, Barry Colville

The next site was a steep and slippery wooded slope that was not attempted by everyone. We noted *Dryopteris cambrensis* at 34/4368 8582, and higher up found a plant of *Polystichum setiferum* (34/4365 8580) at the edge of a massive colony of *Asplenium scolopendrium* that is probably the largest colony in Cumbria. Traversing the hillside we started to see plants of *Polystichum aculeatum* at 34/4361 8581, but did not find any *P.* × *bicknellii.* After a rather precipitous descent to the road, we noted more *Polypodium vulgare* on the school wall with clumps of wall-rue, before returning to the cars for lunch.

For the afternoon, Robert Sykes had obtained permission for us to explore the lakeside and woods of the Witherslack Estate. We parked at 34/4334 8633, a short walk from the lakeside. Several garden plants have naturalised here, so as well as the usual woodland ferns we saw a huge colony of *Matteuccia struthiopteris* (34/4339 8630) close to some fine specimens of *Osmunda regalis* with fronds over six feet tall, probably planted here. A little further on we found *Dryopteris affinis* subsp. *affinis* and *Equisetum* × *litorale;* we found one parent, *E. arvense*, but no *E. fluviatile*. We drove further on into the woodland, parking at 34/4303 8683. There were large colonies of beech fern, *Phegopteris connectilis*, near to the road in both directions from here. The next challenge was to re-find *Gymnocarpium robertianum*, recorded here in 1991 but not found on the 'recce'. We ploughed

photo: A.J. Evans

Roy Copson with *Osmunda regalis* at Witherslack, Cumbria

through the wet undergrowth, noting *Dryopteris carthusiana* and *D. dilatata* but no hybrids, and then climbed up a very slippery and uneven slope to a site with frequent *Polystichum aculeatum* and *Asplenium scolopendrium*, plus *Geranium robertianum*. Someone suggested that the *Gymnocarpium robertianum* might be growing with its flowering namesake, and there it was at 34/4299 8691, with well grown fronds, a sample one measuring 27cm in width and 46cm in length, of which the stipe was 25.5cm. The fronds seemed to be less glaucous and less glandular than those we have seen growing on open scree, as well as being much larger, perhaps due to the sheltered location in damp woodland. A second patch was found a little further along the hillside, and between this and the road was another large colony of beech fern.

photo: A.J. Evans

***Gymnocarpium robertianum*, Witherslack, Cumbria**

Alec then took us to more open woodland with extensive colonies of *Dryopteris carthusiana* as well as *D. dilatata*. At the first site (34/4311 8725) we were uncertain about the presence of the hybrid, but at the second site (34/4321 8740) we found both parents plus *D.* × *deweveri* with frond shape, colour, scales and croziers intermediate between its parents. Subsequent examination by Bruce of the spores of suspected hybrids at both sites showed them all to be abortive. A last bonus to round off an excellent day was a handsome plant of *D. affinis* subsp. *paleaceolobata* at 34/4322 8740.

Ness Botanic Gardens & Hilbre Island, Wirral Peninsula – 10 September

Michael Hayward

A small group of us ignored the threatening weather forecasts and enjoyed a pleasant morning in Ness Gardens (33/305757), concentrating on the area between the old heather garden and the rockery known as the 'Pingo'. A small stream, flanked by *Equisetum hyemale* var. *affine* two and a half metres high on one side and the dwarf *E. variegatum* on the other, leads to a relatively protected large pool backed by a steeply sloping bank with a generous planting of *Dicksonia antarctica*. Many of the tree ferns had succumbed to the previous winter but there were a few survivors in full frond. A few stumps of *D. squarrosa*, their trunks having long since died, were also vigorously sprouting. *Osmunda regalis* was volunteering in the ditches and along the banks, as were a variety of cyrtomiums. Whilst there were no great rarities in the Pingo there was quite a wide selection of both species and horticultural varieties of fern.

After lunch at the Ness café, we motored the short distance to West Kirby (33/211873) and, still in warm dry weather, set out to follow the receding tide across the sands to 'Little Eye', which is completely submerged at high tide. 'Middle Eye' (or 'Little Hilbre') is slightly larger with a small grass-topped plateau; a small amount of bracken was present but no other ferns were found. The main island, Hilbre proper, is a sandstone outcrop running parallel to the Wirral coast. In a small cave at the south tip of the island were several plants of *Dryopteris dilatata* and one of *D. filix-mas* (not on the official plant list!) and just outside the cave were a few isolated plants of *Asplenium marinum*. We then explored the seaward coast of the island whose sandstone is worn smooth by tide and winds and bore no plants, and the top of the island where further examples of *D. dilatata* and bracken were found.

The most interesting site on the island, and the reason for our visit, is the cliffs on the leeward side of the island (33/185880). Here the sandstone is much less weathered and shows multiple long horizontal fissures whose lips are covered with lichen. Exploring from

photo: R. Crawford

Martin Rickard & Michael Hayward with *Asplenium marinum* on Hilbre Island, Wirral

the far end, where there were isolated plants of *Asplenium marinum*, the numbers steadily increased until there was a large area where they formed a confluent mass. In smaller cracks the plants tended to be quite small but where the fissures in the sandstone were a little wider, many plants had fronds up to 40 centimetres long. Very little damage seemed to have been done to the colony during the previous winter. A century ago this colony of *A. marinum* was under threat, the few large plants being guarded by the telegraph station keeper. Now it is thriving and is perhaps the largest colony in Europe, containing several thousand plants well worth the soaking that we received when the weather broke on our walk back from the island.

Annual General Meeting, Holehird, South Cumbria – 15 October Peter Campion

Twenty-three members assembled for the seventeenth North-West Group AGM. The day was bright and sunny and the air fresh. A lot of ferns were brought and sold whilst catching up on gossip. After coffee Martin Rickard described with the aid of slides his visit to New Caledonia and to Lord Howe Island. Last year we heard about the Atlantic and this year the Pacific with again an amazing number of endemic ferns to these islands. The number and variety of these tropical species, most with their names, kept us absorbed! Martin's passion for tree ferns was duly communicated to us all.

Our AGM after lunch gave us the Secretary's and Treasurer's reports. The Secretary summarised the year's outings with help from those who went. Gratitude was expressed to all the volunteer leaders. The financial statement was accepted and Frances Haigh thanked for her service. The meeting elected Ann Haskins as the new Hon. Treasurer.

Cynthia Kelsall announced her retirement from her work at Holehird over so many years as guardian and gardener of the National *Polystichum* collection. She gave us a brief history of it and expressed her appreciation to Steve Mees for taking over the task. The meeting applauded her work with gratitude for the good state of this significant collection.

Alec Greening gave a very professional presentation on the Ferns of the Cook Islands. He and Linda visited three contrasting islands with wonderful ferns and fascinating anecdotes on the geology and life there. Excellent! It made us all wonder when we could go to the Pacific and see them for ourselves. Perhaps with Alec and Martin as our guides?

Martin Rickard judged the fern competition and once again awarded the prize for the best indoor fern to Melville Thomson for his *Nephrolepis*, and – also again – the outdoor fern prize to Harvey Shepherd for his *Polypodium*. Come on everyone! As usual Alec Greening produced stunning photographs and was the only contender for 'Strange ferns / strange locations' with ferns in the wrong places in the Cook Islands.

After tea and cakes provided by members the meeting closed; another very pleasant day.

SCOTLAND

Frank McGavigan

Woodsia alpina Monitoring – Ben Lui, Perthshire/Argyll – 2 July

(*Participants:* Cliff Davies, John Edgington, Mary Gibby, Frank Katzer, Stephen Longster (SNH), Frank McGavigan, Leslie Tucker.)

I reported last year (*BPS Bulletin*, Vol. 7, No. 3, 2010) on our failure to find the *Woodsia alpina* sites on Ben Lui. Embarrassed by our incompetence, we determined to do better this year. Armed with a more sensitive GPS and accompanied this time by that fern bloodhound, Frank Katzer, we (or, in truth, he) located one of the sites (at 27/2722 2696) and we were able to carry out a comparison with John Mitchell's survey of 1978. The results are shown below.

Tuft no.	Estimated no. of plants		Total no. of fronds		Length of largest frond (cm)	
	1978	2011	1978	2011	1978	2011
1	1	1	38	4	5.0	2.5
2	1	1	2	15	2.5	7.0
3	1	-	6	0	4.5	-
4	1	1	11	6	4.5	4.0
5	1	2	6	7	1.0	3.0
6	1	3	68	44	4.0	2.0
7	1	1	8	42	2.0	4.0
8	2	3	3	10	2.0	4.0
9	-	1	-	2	-	3.0
10	-	1	-	1	-	1.5
11	-	1	-	1	-	1.5
Totals	**9**	**15**	**142**	**132**		

photo: M. Gibby

Frank Katzer monitoring *Woodsia alpina* on Ben Lui

The 33 years between the surveys have seen changes: one plant has disappeared but there are three new plant locations and additional plants at pre-existing locations. The number of fronds per plant has seen more dramatic changes with some drastic reductions matched by large gains elsewhere. However, overall the colony seems to be in as healthy a state as a third of a century ago.

Woodsia alpina's interest lies in its rarity. Not as rare, but certainly uncommon, and to my mind more attractive, are *Polystichum lonchitis* and *Asplenium viride*, found in relative abundance in this locality, and that most beautiful of ferns, *Cystopteris montana*, of which we found several specimens. Indeed the north face of Ben Lui is rich in angiosperms also – globe flower (*Trollius europaeus*), melancholy thistle (*Cirsium hetero-*

phyllum) and the diminutive frog orchid (*Coeloglossum viride*), to name just three. But if you are off your Trollius or too sad even for melancholy flowers, there are three more *Woodsia alpina* sites on Ben Lui that need monitoring, to say nothing of lots of other ferns to see, as detailed in my report last year.

It helps to be able to avoid the four mile walk-in by getting a lift to the foot of the mountain, and we are grateful to Stephen Longster and SNH for providing transport, and to John Burton, the landowner, for permission to take a vehicle in.

Glasgow & Bearsden – 11 September

(*Participants:* Bridget Laue & Paul Sharp, Frank McGavigan, Chris Nicholson, Alastair Wardlaw.)

A few weeks earlier, a few of us had been driven back by atrocious weather from helping Heather McHaffie with her regular *Athyrium distentifolium* monitoring near Bridge of Orchy, so it was good that the opportunity arose for an extra meeting, which came as the result of John Anderson's desire to get rid of his ferns. Let me explain. John lives in a Glasgow tenement flat and looks after the communal back garden, which he has sensibly filled with ferns – too many for the sensibilities of his fellow flat-owners, who want something more colourful. (The BPS still has a massive education job to do.) John wanted to satisfy his neighbours but was keen that the discarded ferns went to a good home, hence he contacted us. The collection mostly consisted of relatively common ferns and their varieties, easily obtainable from fern nurseries, but they were magnificent, well grown examples without a weed in sight. So of course we were tempted, and were able to relieve John of some of his burden at bargain prices and point him towards others who would take more. Our enthusiasm must have rubbed off on John as he has decided to keep a select few.

Next stop was Glasgow Botanic Gardens, where the fern collection is in the charge of Stevie Jakusz who was due to show us around. However, our visit coincided with Glasgow Open Doors Day and Stevie mistakenly gave a group of 20 architecture buffs his full fern tour instead of us. The error was not realised till the end of the tour but it gave us the chance to wander around by ourselves, including visiting the filmy fern house, which is not normally open to the public. Run by Glasgow City Council, GBG is inevitably short of funds, but despite this they still have a magnificent collection of exotic ferns and are currently revamping their hardy fern garden. Not interested in ferns? The Kibble Palace Victorian glasshouse is worth a visit for its architecture alone, and its doors are open every day.

To end the day we had been invited to Alastair Wardlaw's garden in Bearsden. The preceding two severe winters had destroyed every one of Alastair's tree ferns but you hardly notice their loss, so full is his garden with hardy ground-storey ferns. Until recently Alastair held the National Collection of British Native Ferns so he has examples of most of these. (He is particularly proud of his filmy-fern enclosure, and rightly so, for how many of us can boast filmy ferns in our gardens?) But in among the natives are dozens of foreign ferns, many rare and unusual, and all of course beautiful. Go and see for yourself: I am sure that Alastair would be delighted to show you around, and, if you are lucky, you might even be treated, as we were, to one of Jackie Wardlaw's scrumptious afternoon teas – cheese scones to die for.

Adrian & Janet Dyer's Garden, Balerno, Midlothian – 9 October

(*Participants:* Catherine Anderson, Adrian & Janet Dyer, Mary Gibby, Roger Golding, Jennifer Ide, Frank Katzer, Bridget Laue & Paul Sharp, Frank McGavigan, Heather McHaffie, Chris Nicholson, Nadia Russell, Bryan & Gill Smith, Avril & David Walkinshaw, Alastair Wardlaw, Maurice Wilkins.)

Was it the opportunity to see around Adrian's garden, the boost in numbers due to the previous day's Committee Meeting, or the chance to pick up something unusual in the fern

swap, that made this the most popular meeting of the year for the Scottish group? No doubt all of these played their part, but the real draw was the magnificent lunch laid on by Janet.

But we must not forget the ferns. Adrian has an eclectic collection: ferns associated with his work as an academic botanist (in particular, *Woodsia ilvensis* of different provenances); ferns grown from spores collected from the mud on his boots picked up on foreign travels; ferns grown for their curiosity value (e.g. the rugose-spored version of *Cystopteris fragilis*); ferns planted for their sheer beauty (e.g. *Polystichum aculeatum* – self-sown sporelings that he spreads around the garden); ferns that are difficult to cultivate (e.g. *Dryopteris fragrans*); fern successes and fern failures. And Adrian is happy to grow the more attractive horsetails such as *Equisetum hyemale* and *E. telmateia*. The latter is expanding across the garden at up to a metre a year. He says it is easily pulled out where not wanted! Everything is clearly labelled (including the fern whose name he doesn't know), and for every fern he has a story to tell, so that a tour of the garden with him is both informative and entertaining.

photo: A.C. Wardlaw

Adrian Dyer's Garden, Balerno

(*from front to back*) Bridget Laue, Frank Katzer, Nadia Russell, Paul Sharp, Heather McHaffie, Chris Nicholson, Adrian Dyer, Roger Golding, Jennifer Ide, Frank McGavigan

Inside, Adrian and Janet had on display their collection of ferny artefacts, in particular beautiful fern-engraved glassware and various pieces of fern pottery. We were treated to a viewing of Henry Bradbury's Nature Prints of ferns. What treasures they are. Janet showed us her own treasures: the superb botanical paintings of six alien invader plants (not one of them, I am glad to say, a fern!) that had won her a gold medal at Gardening Scotland.

Frank Katzer did a good trade selling fern books. The fern swap went well, boosted by some, mostly tender, beauties brought along by Chris Nicholson from Glasgow Botanic Garden. We (sort of) settled on a programme for the next year and agreed who should lead the meetings, which was a great relief to me. We chatted and we ate some more cakes. A wonderful time was had by all; perhaps we should have more fern and food meetings.

SOUTH-EAST

Indoor Meeting, Southend-on-Sea, Essex – 26 February — Graham Ackers

A good collection of members arrived at Tim Pyner's house in Southend on a rather dull and drizzly day for a joint meeting with the East Anglia Regional Group. The venue was Tim's living room, large and comfortable enough to provide an excellent setting for this informal if quite technical day. The format was a series of presentations on taxonomy and classification, organised by Pat Acock. All the speakers had obviously put a great deal of thought and detail into their presentations, which it would be impossible (and inappropriate) to reproduce here, so all I can hope to do is to provide a flavour of their topics.

Pat's first presentation was on 'The molecular biology revolution'. Following a historical review of classification systems, Pat focused on the latest classification, which was heavily influenced by molecular biology. Pivotal to this was the seminal paper by Alan R. Smith *et al.*, *A classification of extant ferns* (*Taxon* 55(3): 705-731. 2006). Therein were recognised 37 families (one third of which are represented in the British flora), and we were shown pictures to illustrate them. In Pat's next talk, 'The *Asplenium* triangle', he presented the history of the unravelling of relationships represented by the diagrammatic triangle bounded by the North American species *Asplenium platyneuron*, *A. montanum* and *A. rhizophyllum*. This involved the recognition over time of all the hybrids and back-crosses within this 'triangle', starting with R.R. Scott finding *A. ebenoides* in 1862. This was reported in the *Gardener's Monthly* in September 1865 and it was the editor of that journal who thought it was the hybrid between *A. platyneuron* and *A. rhizophyllum*. With the passing of time and through several twists and turns, Herb Wagner produced his definitive works in the mid-twentieth century.

Lunch was a leisurely and sociable affair. We had all been asked to bring some food for the feast, and of course there was much too much! There was time to view Tim's splendid collection of books, his fascinating living plant collection, and some herbarium specimens courtesy of Julian Reed, Yvonne Golding, Roger Golding and Tim Pyner.

After lunch, Roger Golding gave us a '*Dryopteris affinis* update'. Essentially his talk was in two parts. Firstly, he described in some detail the history of the recognition of the male fern entities. In the early days, male ferns went through several generic name changes, and only one British entity (now *Dryopteris filix-mas*) was recognised. However, for well over 150 years, authors were quite confused as to what taxa did actually exist in the 'affinis' group, and it was not until the 1990s that floras began to stabilise with their recognition of three scaly male fern entities – '*affinis*', '*borreri*' and '*cambrensis*'. Since then of course, this has been expanded by Fraser-Jenkins' 2007 paper in the *Fern Gazette*. For the second part of his talk, Roger showed many detailed photographs to demonstrate the differences between the taxa now being recognised, although this was still work in progress to some extent. However, despite the excellence of his photographs and lucidity of his explanations, some of us remained a little confused!

Tim Pyner's presentation was entitled 'Holttum and beyond; current classification of Thelypteridaceae'. We have three thelypterids in Britain, but worldwide there are about 1,000 species. Having described the morphological characteristics of the family, Tim then reviewed the history of its classification, key players being Christensen, Ching, Holttum, and Pichi-Sermolli who described the family Thelypteridaceae as recently as 1970. The classification within the family is beginning to stabilise with the acceptance of the clades *Phegopteris*, *Thelypteris* and *Cyclosorus*.

Taking the floor for the third time, Pat presented '*Equisetum* – a brief update', covering several different aspects of the genus: relationships to other ferns, fossil relatives, the primitive nature of *Equisetum bogotense*, evolution of the cones, etc. Equisetums are colonisers of bare mud habitats, and 20 hybrids have now been recognised between the 15 species.

All present found the day most enjoyable and stimulating, and a splendid thematic idea for a winter's indoor meeting. Grateful thanks are due to Pat Acock for his organisation, the presenters for their hard work, and to Tim Pyner for being such a generous host.

Noar Hill & Selborne, Hampshire – 11 June **John Edgington**
(Leader: Andrew Leonard)

Uncommon orchids, an excellent pub and a range of interesting ferns attracted twelve enthusiasts, and a dog, to the area of sublime countryside immortalised by Gilbert White's *Natural history of Selborne*. We met at the foot of Noar Hill (41/740321), where mediaeval chalk diggings have left a landscape of hills and hollows with a rich native flora. This SSSI is managed by the Hampshire and Isle of Wight Wildlife Trust and its juniper bushes and the orchids for which it is famous – early purple, fragrant, pyramidal, common spotted, twayblade, as well as the uncommon white helleborine and the even rarer musk orchid – were all about us. But we had come for *Ophioglossum vulgatum* and Andrew showed us three well separated sites, each a compact grouping of rather small plants, many with fertile spikes. Our impression was that dispersal by spores was uncommon and that each group was most likely clonal, resulting from vegetative spread. In woodland just outside the reserve we found *Athyrium filix-femina*, *Polystichum setiferum*, *Dryopteris dilatata*, *D. carthusiana*, *D. filix-mas* and *D. borreri*, as well as a vigorous plant that Roger Golding suspected might be *D.* × *critica*, the hybrid between the last two species. We saw gratifyingly little *Pteridium*, here or elsewhere during the day.

After lunch at the Selborne Arms, Andrew led us up the Zig-Zag Path, cut in 1753 by Gilbert White and his brother on the nearly vertical slope of Selborne Hanger (41/740333). The vegetation was almost entirely ferny, dense patches of *Asplenium scolopendrium* vying for dominance with *Polystichum setiferum*, *P. aculeatum* and numerous large plants of what seemed to be their triploid hybrid *P.* × *bicknellii*, though checks of spore sterility would be advisable for confirmation. Andrew pointed out several plants of the narrow-pinnate variety 'Divisilobum', majority opinion being that these were natural sports and not a relic of past planting. On July 4th 1633 the Hampshire botanist John Goodyer described shield-ferns for the first time as British plants, finding them on "shadowie moist rockes near Petersfield". It was good to see these ferns thriving within a mile or two of Goodyer's site.

Driving to another hanger above Hawkley Mill (41/749302) (Andrew kindly provided a step-ladder to scale the steep bank, knee-deep in wild garlic) we saw more hart's-tongue, *Athyrium*, *Polystichum* and *Dryopteris*, but could not convince ourselves that the scaly male-ferns were anything other than *D. borreri.* Clumps of *Blechnum spicant*, growing in deep acidic leaf litter, belied the chalky nature of the subsoil, while a little further on Roger spotted a possible *D. affinis* subsp. *paleaceolobata.* On roadside banks at Hawkley Hurst (41/749298) we saw *Polypodium interjectum* and another candidate *Polystichum* × *bicknellii*, while the day ended happily for Pat Acock, with *Equisetum telmateia* and *E. arvense* appearing to order as we walked down to the spring-line beneath the chalk (41/753300). Andrew had certainly given us something for all tastes on a pleasant summer day.

Central London – 9 July (Leader: John Edgington) **Paul Ripley**

A record number of 26 members, mainly from the South-East and East Anglia Regional Groups (including several new members) met near Marble Arch underground station for another of John Edgington's very special tours of central London's ferns.

Apart from the gardens visited towards the end of the tour, ferns were generally to be found growing in mortar between the bricks of the basement areas of flats. *Pteridium aquilinum*, *Dryopteris filix-mas*, *Asplenium scolopendrium* and *A. trichomanes* subsp. *quadrivalens* were ubiquitous, as expected, but others were surprising, to say the least. Our safari started

in Brown Street (W1), where *Adiantum capillus-veneris* (reduced in numbers and size as a result of some re-pointing) was seen with *Polypodium* sp. and *Asplenium trichomanes*. In Shouldham Street we saw *Dryopteris filix-mas*, *Pteridium aquilinum*, *Asplenium adiantum-nigrum*, *A. scolopendrium*, *A. trichomanes* and *A. ruta-muraria*. The latter three spleenworts were also seen further on near the Larrik pub, around St Mary's Bryanston Square and in York Street. On the corner of Montague Mansions and Crawford Street we saw *Polypodium interjectum*, and in Moxon Street a small plant of *Dryopteris dilatata*. We crossed Marylebone High Street and Marylebone Lane (this curiously winding street possibly marking the route of the old Tyburn River) into the land of medical consultants, and at 45 Welbeck Street, near the Marylebone Hotel, we were shown a very well grown *Polystichum tsus-simense*. So well grown was it that some doubted its identity. In Queen Anne Street, in the basement of the house where Stephen Pearce (portrait and equestrian painter, 1819-1904) had lived, we again saw *Asplenium adiantum-nigrum*, *A. trichomanes* and *A. scolopendrium*.

In Welbeck Street, in the basement of number 17, we were shown the most amazing fern of the day – *Asplenium septentrionale* growing in mortar (as it does near Brenzett, Kent). It was growing with *Pteris cretica*, *Asplenium ruta-muraria* and male fern. Let us hope that Howard de Walden Estates are not too vigorous with their re-pointing. It is tempting to speculate that *A. septentrionale* can persist in mortar in a dormant state, awaiting conditions suitable for recrudescence. At 83 Wimpole Street we again saw *Adiantum capillus-veneris* (with *Asplenium scolopendrium* and *Pteridium*), and at the junction between Wimpole Street and Weymouth Street was a sadly decapitated *Pteris tremula*. There was a large plant thriving in a pot nearby, but Roger Golding and others found a good plant growing in mortar at 1A Upper Wimpole Street. Further down Weymouth Street (no. 25) was a very fine crested 'scollie'. Just before stopping for lunch near Great Portland Street, we stopped to admire a basement garden containing a well grown *Polystichum setiferum* 'Bevis', with *Athyrium niponicum* and *Asplenium bulbiferum* (of the trade). For the record, John has found *Cyrtomium falcatum* at 27 Wimpole Street.

photo: B.D. Smith

Asplenium septentrionale* & *Pteris cretica
on a London wall

In Ridgemount Gardens, off Chenies Place (now in WC1), we admired *Dicksonia antarctica*, *Cyrtomium fortunei*, a divisilobe *Polystichum setiferum* and *Dryopteris erythrosora*, among others. Passing Tavistock Square and University College London, at the junction of Leigh Street and Sandwich Street we saw *Polypodium vulgare*. In mortar this is perhaps surprising but examination of the sporangia supported John Edgington's earlier confirmation.

Finally, we visited two gardens seen on our previous visit. St George's Gardens housed, most surprisingly, *Dryopteris cycadina*, as well as *D. dilatata*, *D. filix-mas*, *Asplenium scolopendrium*, *A. trichomanes*, *Polypodium interjectum* and *Pteridium aquilinum*. Several plants of *Polystichum setiferum* were growing in an enclosed grave area. They were slightly atypical and may have been planted. A plant here of the *Dryopteris affinis* agg. has been keyed out by John as *D. affinis* subsp. p*aleaceolobata* but awaits confirmation. *Athyrium filix-femina* also grows here but we did not see it. In St Andrew's Gardens, just a little further on, we saw *Polypodium interjectum* again, and a nice plant of *Polystichum*

photo: A.M. Paul

Looking at crested *Asplenium scolopendrium* in London

Bryan Smith, Laura Belton, Barrie Stevenson, Michael Radley, Richard Treganowan, Graham Ackers, Julie Reid, Howard Matthews, Gill Smith, Pia Östlund

setiferum. Both these gardens are near John's home in Mecklenburgh Square, where we were treated to John's kind hospitality and a lovely cream tea. The high turn-out at this meeting is a tribute to John's organisation and research and we are most grateful to him for a fascinating and entertaining meeting.

Cultivar Meeting, St Leonards-on-Sea, East Sussex – 17 September Julian Reed (Organisers: Mark Border, Tim Brock, Peter Clare & Julian Reed)

We met at Mark Border's garden for refreshment and a brief look round his garden. Once assembled, we had an interesting walk at the back of his garden into Maplehurst Wood, which is about two and a half miles long by half a mile wide. The soil was pretty acid, judging by the amount of *Blechnum spicant*. We found an interesting range of other ferns, all of good size: *Polypodium interjectum* (unconfirmed) some *Dryopteris affinis* group, *D. dilatata*, *D. filix-mas* and *Athyrium filix-femina*, as well as *Pteridium aquilinum* and one *Polystichum setiferum*. We had hoped to find a *Blechnum spicant* 'Anomalum' that had been seen a few years before, but this year, although a big plant, it was not showing the 'Anomalum' character of having sporing fronds the same as the sterile ones.

Back at Mark's garden, we had a good look through his very wide range of species and cultivars, including some outstanding forms such as *Polystichum setiferum* 'Flexuosum' and some gorgeous yellow-fronded *P. setiferum* 'Multilobum' of good upright habit. Mark also had many *Asplenium scolopendrium* and *Polypodium* varieties, including (as verified by Martin Rickard) a record-breaking *P. cambricum* 'Omnilacerum Superbum' with fronds 33 inches long, which Mark tells me was supplied by Martin some 20 years ago.

After a good lunch, we had a fascinating talk and picture-show by Martin on finding cultivars of *Polypodium* in the wild, in some cases where cultivars had been found in the past or at least nearby. Any chance to hear Martin talk on this subject, demonstrating his comprehension of varieties and their histories, should not be missed.

We then had a brilliant plant swap with hundreds of plants. Thank you to all who provided them, but especially to Mark for his generosity and to Peter Tindley for the vast quantity of young plants of a phenomenal range of species and cultivars that he so kindly shared. The whole thing made a superb climax to the meeting, which ended with a cream tea, a South-East Group tradition. Thank you to Mark Border for opening his garden to us and to all who attended and made it such a success. We look forward to seeing any BPS members who have a passion for cultivars at Kemsing near Sevenoaks, Kent on 1st September 2012 for another cultivar meeting. Please contact Julianreed@waitrose.com for more details.

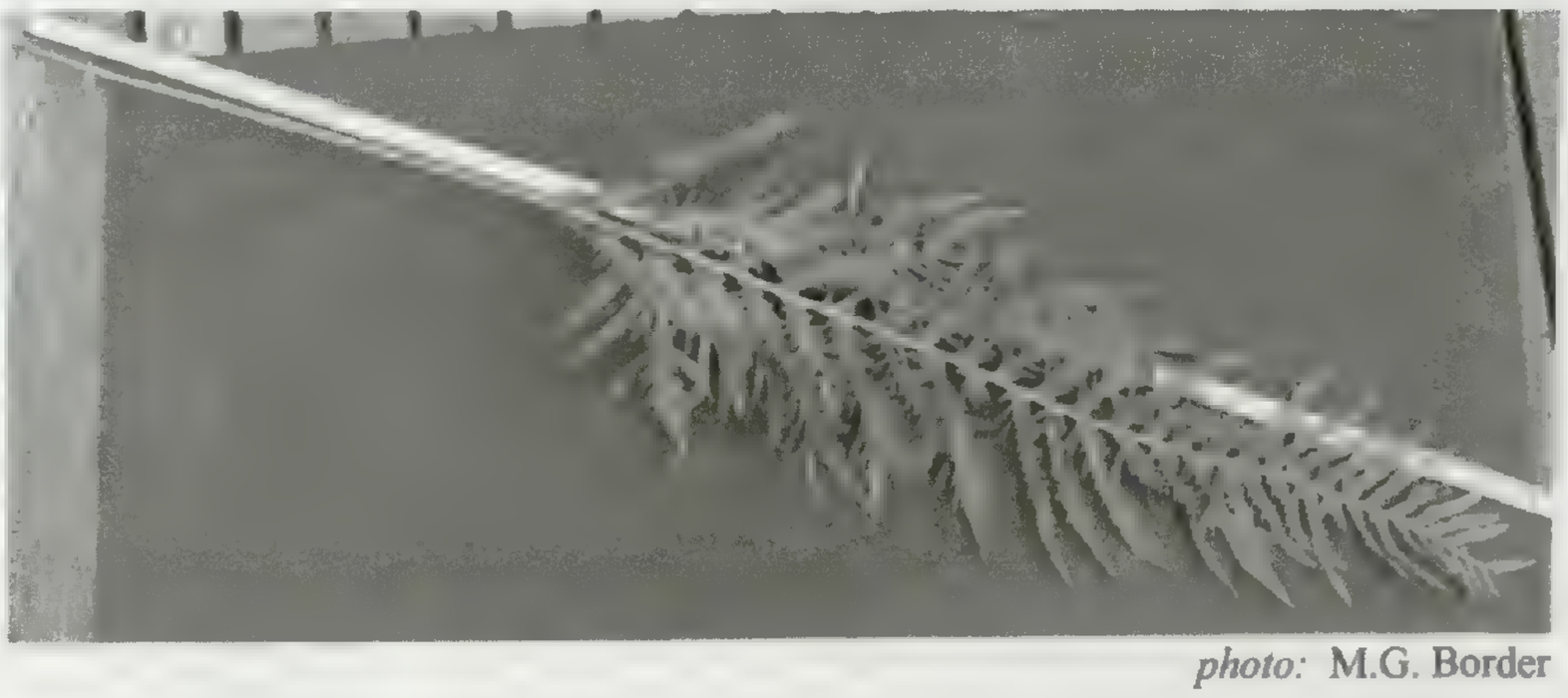


photo: M.G. Border

***Polypodium cambricum* 'Omnilacerum Superbum' frond from Mark Border's garden in East Sussex**

Meenfield Wood, Shoreham, Kent, & Pat Acock's house, St Mary Cray, Kent – 5 November (Leader: Pat Acock)

Paul Ripley

Approximately 14 members assembled at the entrance to Meenfield Wood (51/517624), now amenity woodland on the chalk North Downs above the picturesque village of Shoreham. We were particularly pleased to be joined by Geoffrey Kitchener, the BSBI recorder for Kent; he attended the first meetings of the SE group so it was very good to renew our acquaintance. This typical chalk woodland was home to the expected *Dryopteris filix-mas*, *D. dilatata*, *Pteridium aquilinum* and *Athyrium filix-femina*, but we also found *Asplenium scolopendrium*, including a loosely crested form, and a small number of *Polystichum setiferum*. *Dryopteris carthusiana* was present in places, and a strong candidate

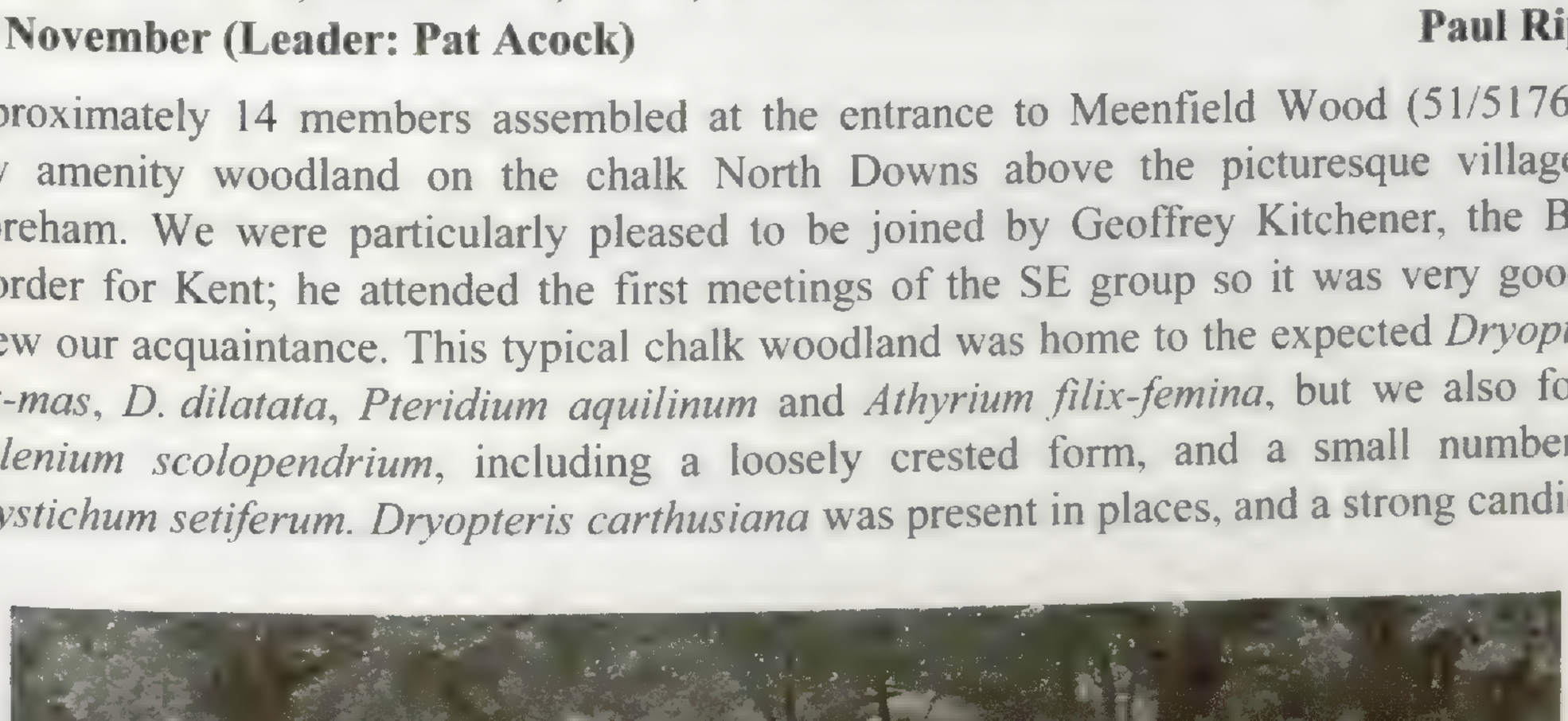


photo: A. Basil

Meenfield Wood, Kent

Steve Munyard, Howard Matthews, Karen Munyard, Julian Reed, Peter Clare, Pat Acock, Geoffrey Kitchener, Bryan Smith, Lindsey Holleworth, Paul Ripley

for the hybrid *D.* × *deweveri* was found. There were also a few *D. affinis*, including a candidate for *D.* × *complexa*. Since the spores were entirely shed it is unlikely that this will be confirmed, at least this year.

We returned to Pat's house, where we enjoyed an excellent lunch. After a tour of Pat's always interesting garden, we were treated to a demonstration of Peter Tindley's successful technique for propagation of fern spores using recycled micropropagation containers. He uses sieved (1/8 inch) Sinclair's Horticultural Peat/Perlite compost and sterilises using just boiling water.

We then enjoyed very high quality slide presentations from:

- Pat (BPS and Hardy Fern Foundation's US tour of the Carolinas, and his visit to Turkey – primarily a tour of religious sites with some most attractive bird-watching)
- Stephen Munyard (Canada)
- Howard Matthews (Suffolk/Norfolk and Middlesex, with a most interesting and well researched consideration of *Dryopteris pallida* in Greece)
- Roger Golding (BPS meeting based at Kindrogan in Perthshire)
- Paul Ripley (BPS Exmoor meeting, and GEP meeting at Forez, France).

Grateful thank are due to Pat Acock for both organising such a full and satisfying day and generously providing us with excellent refreshment.

photo: P.J. Acock

Peter Tindley demonstrates his spore-sowing method

SOUTH WALES AND THE BORDERS

Darren Fawr, Powis & the Taff Fechan, Glamorgan – 20 July **Brian Dockerill**

Eleven members met at Cyfarthfa Castle, near Merthyr Tydfil (32/041073) and shared cars for the brief drive to the Clubhouse of the Merthyr Tydfil Golf Course at 32/030085. After walking beside the golf course for a short while through abundant *Pteridium aquilinum*, we arrived at the edge of the Darren Fawr reserve. In small areas of exposed limestone we found *Asplenium adiantum-nigrum*, *A. ruta-muraria*, *A. scolopendrium*, *A. trichomanes* subsp. *quadrivalens*, *Athyrium filix-femina*, *Dryopteris dilatata*, *D. filix-mas* and *Gymnocarpium robertianum*, although all in very low numbers.

We then moved on to an area of exposed limestone around 32/024097 where, in addition to most of the ferns seen previously, we were pleased to find that *Asplenium viride* was common, albeit in this fairly limited area. We also found one tiny *Polystichum aculeatum*. We then turned to our main objective, to locate and to estimate the extent of *Dryopteris submontana* at one of only two recorded sites in Wales. Most of the plants were found in an area of quite steep scree at the western edge of the reserve amongst extensive colonies of *Gymnocarpium robertianum*. The number of plants was at least 15, however, this is certainly an under-estimate, firstly as the area was very unstable and few participants felt comfortable scrambling around on it and, secondly, some clumps were very large – up to about 75 centimetres across and it was impossible to decide how many actual plants these

included. A member with a GPS gave a reference of 32/0224 0998 for one of the plants. Happy with our morning's work we returned to the castle for lunch.

In the afternoon we again shared cars to visit the Taff Fechan (little Taff), a tributary to the River Taff. Limitations on parking meant a short walk along the road which, however, proved very rewarding from the ferning point of view. *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens*, *Athyrium filix-femina*, *Cystopteris fragilis*, *Dryopteris dilatata*, *D. filix-mas*, *D. affinis* agg., *Equisetum arvense*, *Polypodium interjectum*, *P. vulgare* and *Polystichum aculeatum* were all to be found, either on a retaining wall or by the roadside verge and ditch. Reaching the river at 32/045096 and after passing though areas of *Pteridium aquilinum*, we joined the riverside path, in part an old tramway and a moist, tree-covered, shady habitat in very marked contrast to the exposed scree of the morning. Here, along with plentiful *Cystopteris fragilis*, we added *Gymnocarpium robertianum* to the afternoon's tally along with *Equisetum palustre* and *E. telmateia*. Further along the river, presumably as a result of a change to more acid conditions, the flora changed and we found both *Blechnum spicant* and *Oreopteris limbosperma*.

In all, within two sites just a few miles apart we had found 21 species, including one great rarity, and we completed our day with tea and cakes in the garden of Brian and Sue Dockerill.

Eastern Black Mountains: Black & Red Darrens, Herefordshire & Coed y Cerrig, Monmouthshire – 24 August

Sue Dockerill

On a fine morning, nine members met at the car park near the Black and Red Darrens (32/297296). After admiring the panoramic views over the English border country, we set off up towards the Offa's Dyke path on the ridge, here marked by a deep split. On the south side of this were the screes of the Black Darren and on the north, the Red Darren, our objectives for the morning.

After walking through the ubiquitous *Pteridium aquilinum*, we spotted a large stand of *Oreopteris limbosperma* running along a small brook and took a breather to admire it. Reaching the height of the screes, we turned left to explore the Black Darren. After passing *Athyrium filix-femina*, on the screes themselves we saw typical limestone ferns (*Asplenium trichomanes* subsp. *quadrivalens*, *A. scolopendrium*, *Gymnocarpium robertianum* and *Polystichum aculeatum*) in some quantity and a few plants of *Cystopteris fragilis*. In addition, there were three *Dryopteris* (*D. filix-mas*, *D. dilatata* and *D. affinis* agg.) and two polypodies (*Polypodium interjectum* and *P. vulgare*) growing amongst the bigger boulders. One brave soul also found *Asplenium adiantum-nigrum* on the higher cliffs.

Returning to the main path, we crossed to the Red Darren. Although the rocks looked different (unsurprisingly, redder, but also in smaller fragments) the ferns seen were remarkably similar except for an abundance of *A. adiantum-nigrum* and much less *Gymnocarpium robertianum*.

After lunch in Longtown we saw large colonies of both *Asplenium ceterach* and *A. ruta-muraria* on the southern face of its castle inner bailey.

About ten miles away at the Coed y Cerrig NNR (32/294213), we met the reserve warden, Jon Wolgemuth. The reserve has both wet and dry woodland, ancient and regenerated. Jon had kindly agreed to show us its most notable pteridophyte, the marsh fern (*Thelypteris palustris*) in its only known Monmouthshire site. This was in the wet woodland of the valley bottom – a mixture of alder, willow and ash on a deep peat soil formed since the last ice-age when the valley silted up. Although there is easy board-walk access, we were led into the overgrown western half of the reserve, passing *Dryopteris dilatata*, some *D. carthusiana* and one possible *D.* × *deweveri*. The going was

rough, with two small streams, brambles and waist-high marsh sedge, and we were extremely grateful to Jon for leading us. We were rewarded at the extreme western edge of the reserve with a fantastic patch of this lovely fern, around two by fifteen metres, growing well but not sporing. The recommended management option, reintroduction of cattle grazing, was not possible and so the woodland had been thinned to encourage it. As this also helped the sedge, the overall effect was uncertain. We were shown another small patch, doing well and believed to have arisen from physical distribution during maintenance work. While in this area we also saw *Dryopteris filix-mas*, *Polypodium vulgare* and *Athyrium filix-femina*, along with a couple of small patches of *Equisetum fluviatile*.

A final delight was the sight on one of the trees of a dormouse, which observed us as keenly as we did it. This was a really nice way to end the visit and so, after thanking Jon, we made our way home.

Garden & Indoor Meeting, Chaddesley Corbett, Worcestershire – 22 September

Sue Dockerill

Fifteen members gathered in Chaddesley Corbett (between Kidderminster and Bromsgrove) at Dial Park, the home of Olive Mason, a local group member. This is a lovely garden with much to fascinate any plant enthusiast, and ferns are one of a number of her special interests. On first entering the garden, ferns were not much in evidence, although some fine stands of polypodiums soon attracted attention. After being seduced by the many unusual non-pteridophytes, we eventually found ourselves in a sunken area where a moister bed below a low wall was home to several very attractive polystichums. Despite the low rainfall that Olive had experienced this summer, they were looking remarkably fresh in this spot.

Around the back of the house was a narrow bed with many interesting ferns. A well grown *Blechnum magellanicum* caught my eye, and also a very lovely lady fern variety, which Olive identified for me as *Athyrium filix-femina* 'Kalothrix'. Also in this bed was a plant of a *Drynaria* species, which was perfectly hardy for her and had a wonderful scaly creeping rhizome. Hidden away was an area dedicated to ferns – enclosed on all sides and with a small pool and fountain in the middle providing humidity. Here a small creeping *Blechnum* that Olive had obtained from Chile was being admired and several of us left with a small piece to try. Much talked about was a pot of a very diminutive lady fern obtained as *Athyrium filix-femina* 'Minutissimum'. I have a plant under this name and mine is simply a rather short but otherwise typical lady fern. In contrast, Olive's example was a very congested almost greyish green plant only about five to ten centimetres high – a real little treasure.

After lunch in the pub, we reassembled at the nearby village hall for our indoor session. We were very lucky that so many people had brought along interesting things to see and discuss. There were pressed samples of New Zealand ferns, a collection of medals won by E.J. Lowe (plus the book where he proudly lists them) and an interesting piece of Mauchline ware to admire. On the plant front, we had a sample of crested bracken that generated much discussion as to its origin, fronds of some lovely *Asplenium scolopendrium* varieties, which led to a lot of questions about propagation from leaf bases, and plants of several *Polystichum setiferum* varieties for help with identification. Finally, several members had brought pictures of our own and other groups' field and garden visits to remind us of enjoyable times and to whet our appetite for future endeavours. After a welcome break for tea and cakes, we ended our first indoor meeting with a plant swap.

Our thanks must go to all members who supported this event and particularly to Olive for sharing her lovely garden and making us so welcome.

YORKSHIRE FERN GROUP

Polypodium Field Day, Malham, North Yorkshire & Workshop, Manchester University – 5-6 March (Joint Meeting of Manchester & North Midlands and Yorkshire groups)

John Grue

The high, cold and land-locked terrain of Malham is not where one would expect to find *Polypodium cambricum*, so when in 1965 Ken Trewren first identified the species in Trow Gill (34/755716) and, as he thought, at Gordale Scar (34/915641), he was very surprised. He started thinking very early on that there might be hybrid colonies in the area, as *P. vulgare* is common around here and *P. interjectum* grows just two kilometres away on the walls of Clapham village. Over the years Ken revisited the area alone and with Vincent Jones, Bruce Brown, Barry Wright and BPS groups. Our excursion was to follow an itinerary informed by all the previous work. We hoped to see the three native polypodies, the three hybrids and a selection of other exciting wintergreen limestone ferns. The weekend would continue with a laboratory session at which we could confirm or determine taxa and develop our microscopy skills.

We met on a very cold but fine Saturday morning at Malham. We had hoped to do this field trip with Ken, but the rapid progress of his final illness sadly made this impossible. In his stead we were led by Bruce Brown, who had participated in researching the polypodies of Craven. The group was large and eclectic: 18 of us including members and guests from Northumberland, South Wales, Hastings, London and Southampton as well as from the host groups. A most welcome guest was Marek Podsiedlik of the Poznan University of Life Sciences, who had spotted the event on the Society's website.

We headed towards Janet's Foss and by the entrance to the gorge (34/909631) we found *Asplenium trichomanes*, *Polystichum aculeatum* and *Dryopteris filix-mas*. The gorge itself was bursting with the promise of spring, but our eyes were drawn to a row of four polypody colonies growing on the first large limestone outcrop. These were three colonies of *Polypodium interjectum* and a colony of the *P. interjectum* × *P. vulgare* hybrid, *P.* × *mantoniae*. All were safely out of reach, even by Bruce's standards, so no samples were taken. On the crag below were *Asplenium scolopendrium* and some extraordinarily large and auriculately ragged *A. trichomanes*. A little further on, an apparent cave on top of a precariously steep slope proved to be a tunnel giving access to the top of a crag where Bruce showed us a large and luxuriant colony of *Polypodium* × *shivasiae*, the *P. cambricum* × *P. interjectum* hybrid. The lower pinnules showed clear toothing.

As we went deeper into the damp confines of the Foss gorge we found luxuriant epiphytic colonies of *P. vulgare* and vigorous plants of *P.* × *font-queri*, the third of the hybrids (*P. cambricum* × *P. vulgare*). Here also was *Dryopteris dilatata*, possibly growing in the low pH of a subterranean stump. Just below the Foss itself was a large colony of *P.* × *font-queri* that had been confirmed cytologically by Ken.

As we left the Foss we found *Asplenium ruta-muraria* – a pleasure to see it on its natural substrate. We continued to Gordale Scar, mainly for tourism reasons, as many had never seen it. Here our Polish visitor beat everyone else in spotting *A. viride*. High above us and identified only by the odd fallen senescent frond were Ken's inaccessible colonies of *Polypodium cambricum*.

We found our way round to a dry valley at about 34/908638. This unlikely area contained a wealth of polypodies. Our first was *P. cambricum* on the crags to our right as we walked up the valley. We admired its ripe yellow sporangia and clearly deltoid pinnae. Nearby were the dry brown fronds of *Cystopteris fragilis*, and the contrast between the two responses to winter produced discussion. Supported by the roots of a tree higher to our right were fronds

of *Polypodium* × *font-queri*. Close by, Roger Golding made a frightening (for the spectators!) reach to a colony of *P.* × *mantoniae*, which, unusually for a hybrid, did display somewhat yellowish fertile sporangia. Scrambling down and across the little valley we came to a south-facing crag where a good colony of *P. cambricum* was growing next to an ash sapling. Steeply up on the west side of the valley we saw three colonies on a five-metre-long crag. The central one had been confirmed by Ken as another *P.* × *mantoniae*.

We now set off up the steep ascent to the clints above the Watlowes valley (34/900644). Here we found *Asplenium scolopendrium*, *A. viride* and, delightfully, nine plants of *Polystichum lonchitis*, some not previously known.

Next we followed the large crag of Ing Scar up the valley. Here we took out Barry Wright's famed Polypody-snipper # Mark IIIb to reach the huge colony of *P.* × *shivasiae* (another KT find from 2003). Further down the valley we were able to snip another *P.* × *font-queri*, and a little further on, a small colony of *P. cambricum*.

photo: R. Golding

***Polypodium* × *shivasiae* at Ing Scar**
Bruce Brown demonstrates polypody-snipper

At the bottom of the Watlowes valley lie the clints topping Malham Cove. There is always an anticipation of surprises in clints and grykes, and sure enough here we were shown *Polystichum* × *bicknellii* (*P. aculeatum* × *P. setiferum*), *P. setiferum* (rare in this area), *Dryopteris borreri* and *D. dilatata*. The steep walk down to the village was endured with great satisfaction following a magnificent day of ferning.

The next morning we gathered again, this time in the Stopford Building of the University of Manchester. Arrangements had been made through the kind permission of Roland Ennos and Linda Berry. An array of beautiful microscopes greeted us and under Bruce's tutelage we learned how to make suitable slides for the identification of the polypodies. We helped each other to recognise the visual differences and count the all-important indurated cells. Some were disappointed in the unreliability of the presence or absence of paraphyses as a feature; perhaps more experience is needed, as in so much fern identification. One very pleasing outcome was that Yvonne Golding was able to confirm the *Polypodium* × *mantoniae* found in Bradford Dale in the Peak District on a previous foray.

In the afternoon some of us visited the University Experimental Botanical Grounds (The Firs) where we saw Barbara Porter's fern border, which was looking very well established, drooled over the *Leptopteris* specimens in the moss house and admired some of the less tender ferns in The Range. The afternoon ended with tea and biscuits before we dispersed to

opposite ends of the country. It had been a great weekend spent in the company of knowledgeable fern enthusiasts.

Moonwort Survey, Redmire, Grinton, Yorkshire Dales – 26 May Barry Wright

The moonwort survey this year was a follow-on from 2010 in continuing to monitor the ten fixed quadrats established in 2009 along the Grinton to Redmire road around 44/039965, making this the third year of data gathering. The eager hunters set off, and in addition to recording the moonworts (*Botrychium lunaria*), found a few places where adder's tongue (*Ophioglossum vulgatum*) was present. Sometimes they were in close association, and to investigate the dynamics of the two species over time, it was decided to install two new quadrats (267 and 269) at locations where both species occurred within a one-metre quadrat.

The 2011 data revealed continued considerable variation between quadrats and between years as shown in the table below. Within a given quadrat numbers can vary from year to year; quadrat 236 continued to be the most populated quadrat with an average of 55 spikes per year, but showed a variation in range from 39 to 75. Half the quadrats seemed to have had a lean year in 2009 but increased and maintained relatively stable populations in 2010 and 2011. Of the rest, quadrat 233 peaked in 2010 and fell back in 2011, 323 was higher in 2009 but lower and stable for the next two years. Quadrats 324, 325 and 326 seem to have stayed relatively low in the first two years and increased in the third year.

Quadrat	2009	2010	2011	Total	Average
230	10	20	24	**54**	**18**
231	6	10	12	**28**	**9**
232	0	3	2	**5**	**2**
233	11	27	13	**51**	**17**
236	39	75	51	**165**	**55**
322	9	22	18	**49**	**16**
323	9	3	3	**15**	**5**
324	27	25	47	**99**	**33**
325	15	17	39	**71**	**24**
326	12	11	21	**44**	**15**
Total	**138**	**213**	**230**		

The general pattern of distribution appears as variable as reported in the 2010 meeting account. Most spikes occur within the same general area and many quadrats demonstrate sporadic outlying spikes that can crop up anywhere within the quadrats. As more data is acquired each year it is hoped that a clearer picture can be drawn as to why overall numbers vary from year to year and why numbers within quadrats, and their locations, also vary.

Bitholmes Wood, South Yorkshire – 17 June Paul Ruston

Bitholmes Wood lies approximately seven miles to the north of Sheffield on the east-facing slopes of the Upper Don Valley. The steep, wooded slopes at Bitholmes have been exploited for an array of industrially important earth materials over some considerable time. Extraction of clay and ganister – used in the manufacture of refractory products essential to the early metal-smelting industries – has terraced the slopes, carving them into three consecutive ascending plateaus. A combination of mass slumping of the exposed acid sandstone and the actions of the Yorkshire weather have left a moonscape of moss-covered boulders and fragmented rocks. Archival records show that these woodlands were once part of a vast hunting forest of oak and pasture land, but now the tree cover is mainly sycamore with the occasional specimen ash, the natural oak cover being confined to the upper and less exploited reaches of the woodland.

We had briefly visited Bitholmes Wood the previous year on a national BPS meeting and found potential *Trichomanes speciosum* gametophyte under boulders, but this was not satisfactorily confirmed. So with this unfinished business to attend to, four of us re-examined this bouldery area with the aid of a good torch and were able to confirm the presence of gametophyte, with two colonies under a boulder just ten metres away from the 2010 site (43/290965). As the day progressed we found two more locations for the gametophyte under similar boulders.

The humus-rich woodland soil was well covered with ferns and there were good indicators of ancient woodland, notably archangel, wood millet and a particularly good find – thin-spiked wood-sedge (*Carex strigosa*). The dominant ferns were *Dryopteris dilatata* and *D. filix-mas*, with *Pteridium aquilinum* in more open areas and *Athyrium filix-femina* in wetter spots. *Dryopteris borreri* was prevalent throughout, varying from the typical species through to morphotypes '*insolens*' – growing in groups and as individual plants – and '*foliosum*'. Just one plant looked a good candidate for morpho-type '*rhombidentata*'. It was only when we reached the top part of the wood that we saw potential *D. affinis*, with one definite plant amongst less certain candidates. Also in this area on a steep bank were a few very mature plants of *Polystichum setiferum* complete with their skirts of dead fronds. Where it became rockier we spotted a few *Blechnum spicant* (43/290965) and just one *Asplenium scolopendrium*.

photo: P.I. Ruston

Bitholmes Wood, South Yorkshire
Bruce Brown examines *Dryopteris affinis*, observed by
Mike Wilcox & Jesse Tregale

Dent Head, Yorkshire Dales – 30 July **Bruce Brown**

Dent Head was a new area for our group to visit. During an earlier exploration by Mike Canaway, he had found a surprisingly rich assemblage of ferns on the old tunnel spoil from the Settle to Carlisle railway line. This line emerges from the three-mile Blea Moor tunnel into the head of Dentdale and passes over the spectacular Dent Head viaduct under which we parked our cars (34/778844).

We followed the narrow winding road down into Dentdale for a little way, picking up some common species: *Dryopteris filix-mas*, *D. dilatata*, *Pteridium aquilinum*, *Athyrium filix-femina* and *Cystopteris fragilis*. A small footbridge adorned with *Polypodium vulgare* and *Asplenium trichomanes* subsp. *quadrivalens* got us across the infant River Dee onto a path heading back upstream. A shady bank along here produced a nice grouping of *Gymnocarpium dryopteris* and *Blechnum spicant*, with some *Oreopteris limbosperma* close by.

Further up we reached the garden wall (bedecked with *Asplenium ruta-muraria* and other mural ferns) of the highest dwelling in the dale, appropriately named Dent Head Farmhouse (34/776842). We were greeted by the owner, Mike McCarthy, who had agreed to show us

the ferns he cultivates here at 320 metres altitude. Although his favourite plants are irises, Mike found that hardier ferns grow quite well in the shady, more sheltered spots around the house, helped by the high annual rainfall (fortunately not being topped up during our visit). British natives and cultivars included *Polystichum setiferum* with a nice 'Divisilobum', *Dryopteris dilatata* 'Crispa Whiteside', *D. filix-mas* 'Linearis Polydactyla', *D.* × *complexa* 'Stableri' (crisped) and two mature *Osmunda regalis* with fertile fronds. Some other species we identified were *Polystichum tsus-simense*, *Athyrium otophorum*, *Dryopteris erythrosora* and *Matteuccia struthiopteris*. Whilst viewing the garden we were accompanied by Mike's eight-year-old male turkey from Poland, who behaved impeccably in his owner's presence, but when we returned was inclined to be more unruly and was not averse to taking a peck or two as we passed by!

Approaching the tunnel mouth we reached the rocky terraces of nineteenth-century spoil that spread out over a few hundred square metres (34/775840). The rubble, which appeared to be a mixture of acidic and calcareous material, was well clothed with ferns, and exploration before and after lunch revealed *Cryptogramma crispa* and *Asplenium adiantum-nigrum* growing close to *A. ceterach* and *A. viride*; *Dryopteris borreri* was frequent along with some *Asplenium scolopendrium*. Just above the terraces we found *Ophioglossum vulgatum*.

A wet area by a railway underpass was lush with *Equisetum* – *E. arvense* and especially *E.* × *litorale*. Not far away was *E. palustre*. We returned to the cars by the same route, then Mike Canaway and I did some 'overtime', exploring the stream below the viaduct, carefully negotiating a waterfall. We were rewarded with a new local record for *Phegopteris connectilis* and some *Polystichum aculeatum*. Finally, on the way back we found a convincing candidate for *Dryopteris cambrensis*, which made our tally of wild ferns for the day 24 taxa.

Upper Teesdale, Co. Durham – 20 August — Bruce Brown

This was pretty much a repeat of the previous year's July meeting in Teesdale, but who needs an excuse to revisit what is arguably the most exciting botanical hotspot in northern England. At least that is what 11 of us must have felt as we turned up at Cow Green Reservoir (35/810309) – in favourable weather for a change. Most of the ferns we saw were the same as in 2010 and were fully recorded in the 2010 *Bulletin* p. 219, so this report concentrates on specific items of interest.

We made the usual car-sharing arrangements to reach Widdybank Gate (35/847309), and walked the track past Widdybank Farm to follow the Tees upstream on the approach to Falcon Clints. We spent some time on the boulder-scree at 35/830284, reacquainting ourselves with *Dryopteris oreades* and how it differs from other *Dryopteris* species, and ticking off many more ferns as we delved amongst the boulders.

We climbed up to the limestone rock band below the Whin Sill along Falcon Clints to count the *Polystichum lonchitis* plants, starting at 35/825281. John Durkin (VC66 Recorder) keeps a record of these; we totalled 12 this year, which included a few 'babies' so they are doing well on balance, although one or two old gnarled specimens seemed to be just hanging-on in exposed places. We were more confident this year in confirming a *Dryopteris cambrensis* at 35/823281, and further on a good plant of *D. borreri* (35/816284), but did not spot any definite *D. affinis*. The large boulder we call Ken's Rock (35/817283) is a location for *D. expansa*, but we knew from Ken Trewren's previous visits that one or more plants had been proved to be the hybrid *D.* × *ambroseae*. We collected five samples with ripening sori, which later on I checked microscopically and – bingo! one had totally infertile spores so could be concluded to be the hybrid, thus achieving one of our objectives for the day. A short distance further on we refound *D. carthusiana* and hoped to confirm another possible hybrid growing nearby. Only one plant had ripening sori that could be checked, but sadly it had dark fertile spores so was concluded to be *D. dilatata*. But that elusive hybrid may well still be there.

photo: A.J. Evans

***Polystichum lonchitis* in Upper Teesdale**

We had another look at the introduced *Woodsia ilvensis*. I am not sure to what extent John Durkin and other members agree, but my impression after seeing them over a few years is that many are declining. Most have quite small fronds, and it is very noticeable that they now have to compete with encroaching grasses and *Polytrichum* moss, and some look to be struggling. In contrast, a couple of us visited the introduced colonies on the 'Yorkshire' side of the Tees next day and quite a number of these are doing very much better. Higher up and with a north-facing aspect, maybe they have less competition and more humidity, although ironically it was on the Durham side that the last native plants were recorded. Let us hope that some plants from both sites become robust enough to produce a lot of spores, as some new sporelings would be the true measure of success for these reintroduction programmes.

The rain suddenly set in as we ascended Cauldron Snout so it was a bit of a dreary finish. But after initial doubts we did manage to confirm *Equisetum variegatum* by Cow Green Reservoir (35/815295), thus ending another really interesting visit to Upper Teesdale.

York Museum Gardens & York Cemetery – 10 September — Bruce Brown

Two years ago, Sjaak Kastelijn, the head gardener at York Museum Gardens, contacted us to discuss his ideas for setting up a fernery as part of a larger project to re-create the botanical garden started by the York Philosophical Society in the 1830s. Following this, Neil Timm became involved, providing a lot of his nursery know-how and plants to stock the new fernery, which is situated in the eastern corner of the Gardens next to the old Abbey Walls and is shaded by a large hornbeam and some yews. This seemed a good time for our Group to visit to see what progress had been made.

Five members met Neil and his assistant Sylvia at the Gardens (44/600521). Unfortunately Sjaak had to cancel at the last

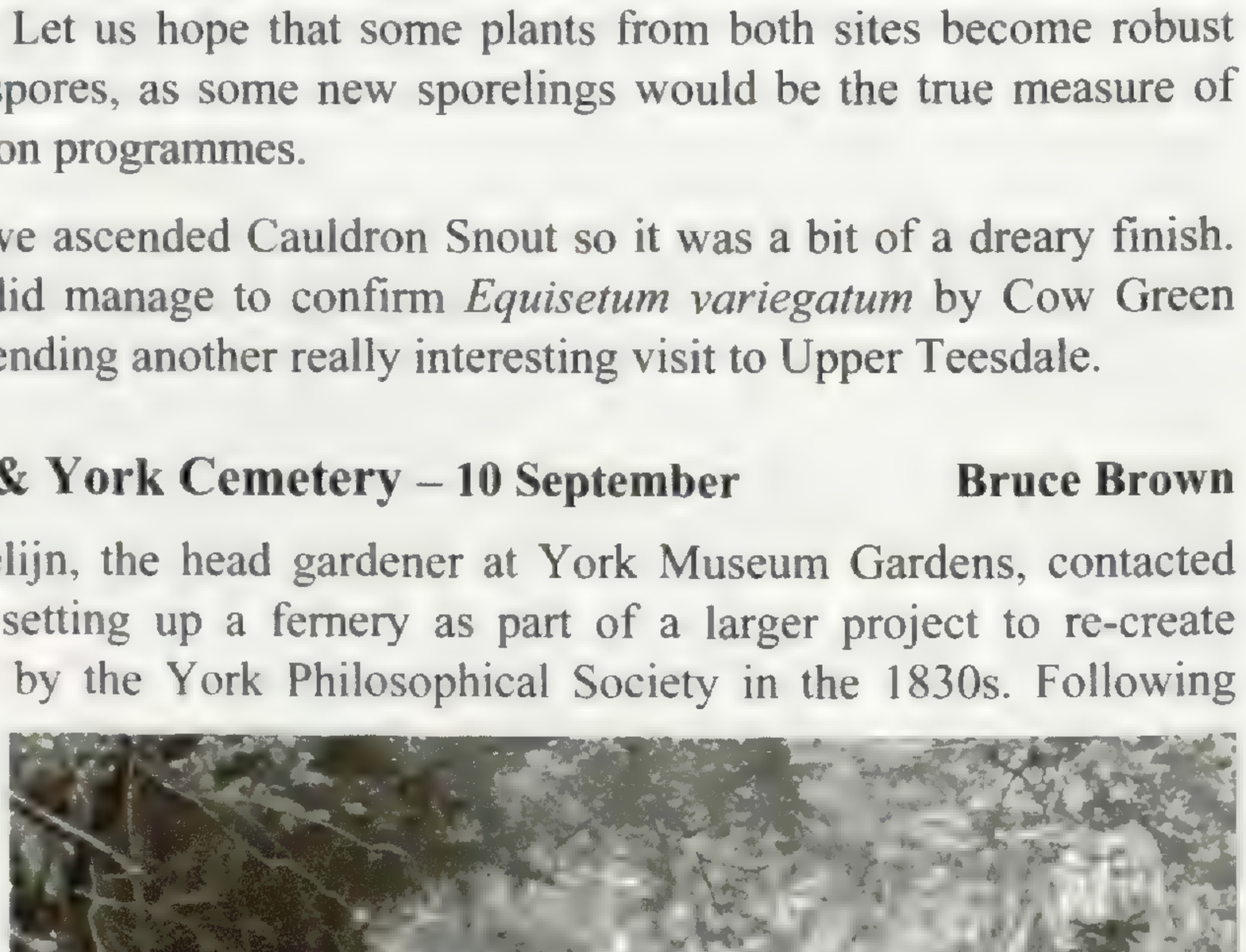


photo: Y.C. Golding

York Museum Gardens

Bruce Brown, Neil Timm, Ann Gill, Alison Evans, Roland Ennos

minute, however, Neil was able to identify most of the plants in the fernery and Alison Evans pencilled out a garden plan to pass on to Sjaak. Apart from the plants of *Dicksonia antarctica* that had to be replaced after the severe winter, most ferns were in great condition and doing really well. With around 50 ferns listed, obviously too many to mention, one of the things we noted was the clever way that Sjaak was able to get young plug plants such as *Asplenium scolopendrium*, *Blechnum penna-marina*, *Polystichum setiferum* 'Congestum' and polypodiums away in little crevices amongst the rocky walls and on failed *Dicksonia* stumps. *Adiantum aleuticum* looked really well naturalised among the roots of an old tree placed upside down.

We could happily have spent another hour or more in the Gardens looking at some of their other specialised borders and Champion trees, but after an *al fresco* lunch it was time to walk the mile along the busy streets and riverside to York Cemetery (44/610509). Our last visit was in 2009 (see *Bulletin* report) to tend to the Fernery in the old Victorian part of the cemetery – a little weeding and thinning out to enhance the ferns, which were still doing well. Yvonne Spurr from the Friends Trust looked after us, providing garden tools and tea, and also showing us the interesting catacombs under the Chapel. We put together a plant list of 40 ferns (not counting the invasive *Equisetum arvense*) – quite a show. The various polypodies looked exceptionally good this time. Two huge bags full of weeded angiosperms were added to the compost heap so hopefully our efforts will prove worthwhile. Maybe next time we could donate a few ferns to fill in the gaps.

If any members happen to be in York, both of these venues are really worth a visit. We used the Park and Ride on the A19 from the Ring Road and found it a trouble-free way of reaching the city centre.

Nidd Gorge, north of Harrogate, North Yorkshire – 8 October

Alison Evans

Six of us met at the small car park at 44/3303 5844 for a short expedition to see *Equisetum hyemale* growing by the River Nidd. We followed the path to the bridge so that we could cross the river and walk along the south-west bank, noting *Athyrium filix-femina*, *Dryopteris dilatata*, *D. filix-mas* and *Pteridium aquilinum* on the way. Our resolution to walk in quickly and look at ferns on the way back was soon forgotten as we noted *Dryopteris borreri* at 44/3288 5823 and *Equisetum sylvaticum* at 44/3289 5824. Leaving the path, we scrambled down the slope to our left, stopping to examine a rocky outcrop with *Polypodium interjectum* growing on it at 44/3290 5797, and recording *Polystichum aculeatum* nearby. Walking a little further along the river, we started to see *Equisetum hyemale* growing in very boggy ground at 44/3291 5794, the initial sparse clumps

photo: A.J. Evans

Nidd Gorge

Neil Timm, Mike Canaway, Jesse Tregale, Mike Wilcox, Bruce Brown

giving way to some vigorous colonies. Splashing our way along the river bank we also found *E. telmateia* at 44/3294 5773, with a possible hybrid (with *E. arvense)* being collected for closer scrutiny. We looked for *E. arvense* and for *Blechnum spicant* but did not see any. We did find several plants of *Asplenium scolopendrium*, mainly growing below the rocky outcrop. We then made our way up the rather treacherous slope and rejoined the main path.

On the way back to the car park we noted a plant of *Dryopteris affinis* subsp. *affinis*, bringing the number of taxa recorded up to 12. We then repaired to the Harrogate Arms for sustenance before meeting in the learning centre at Harlow Carr Gardens for our AGM.

Hack Fall Wood, Grewelthorpe, North Yorkshire – 13 November Barry Wright

The Yorkshire Fern Group has made many excursions to Hack Fall Wood near Grewelthorpe (44/235772). This wood is particularly rich in fern species and we have known of the existence of the hybrid *Polystichum* × *bicknellii*. When I did a woodland flora survey here as part of my research I pondered the significance of hybrids within a woodland setting. On the lower slopes and associated with the streamsides in Hack Fall Wood there is mixed geology, with areas of acid rock being very close to areas with calcareous influences. This leads to the presence of colonies of both parents (*P. aculeatum* and *P. setiferum*), giving many potential opportunities for creation of the hybrid. I wondered whether or not the number of hybrids could reflect the age of the woodland, the long association of both parents enabling them to produce a relatively large number of hybrids through time. Another facet to investigate was whether or not the hybrid was always in the same general area as the parents or whether it was found where only one of the parents currently existed, indicating potential extinction of the other parent. It was also considered an interesting exercise in itself to try and record specifically the location of all of the hybrids within this stand of woodland.

A pleasingly large number of members braved the unpromising November weather in order to satisfy my curiosity. November was chosen as most of the deciduous ferns would have died back, leaving the evergreen polystichums upstanding and visible. Taking people first to the hybrids at known locations would familiarise everyone with the characteristics they were to be looking for when we began to survey.

The day started on the high ground amongst the acid rocks and as we descended towards the more calcareous strata we recorded *Polystichum setiferum*. *P. aculeatum* slowly appeared and then our first hybrid – at a previously unrecorded

photo: A.J. Evans

***Polystichum* × *bicknellii* in Hack Fall Wood**

Jesse Tregale, Roy Copson, Michael Wilcox, Barry Wright, Bruce Brown, Chris Evans, Denise Copson (*foreground*)

location. Having convinced ourselves of the identity of the hybrid we continued on to look at the known sites as intended. One of them was a large specimen at the junction of two footpaths. The other location I had discovered had the advantage of presenting all three taxa within a metre of each other: two plants of *Polystichum setiferum*, one plant of *P. aculeatum* and one hybrid. Again, studying this cluster in detail gave us confidence to start the real hunt.

After many 'off-piste' excursions and frequent scratching of heads, we finally came up with a tally of ten hybrid plants, as shown on the aerial photograph. Most were large and showing hybrid vigour, but a few were quite small, though still distinctly hybrids. Attempts to find a record given to us by David Tennant on the upper slopes to the west proved unsuccessful. There were some leathery *Polystichum setiferum*, but they all had truncated basal pinnae. Our general 'jiz' criteria for spotting hybrids were: Leathery? Pinnae tapering almost to the base of the frond? Spiky pinnules with thumbs? If the answer was yes to all these, we were probably looking at a hybrid. The general pattern was that the hybrids were normally within a few metres of both parents. Most were on sloping ground and were in the interface zone between the acid rocks of the upper slope and the calcareous rocks of the lower slope.

A good day was reported by all – as shown by the smiley faces in the photo taken by Alison Evans of the 'hunters' gloating over their quarry.

Base photo: Google Earth

Aerial photo of section of Hack Fall Wood showing locations of the ten hybrids (*Polystichum* × *bicknellii*)
(southern dot represents two plants close together)

Group of European Pteridologists (GEP) Excursion

Chalmazel, Forez, Central France – 17-23 July **Pat Acock**

With 45 people registered, our leaders Jean-Charles and Valou Bertier had booked the whole of the hotel L'eau Vive and also several local gites. It was very nice meeting old friends and a lot of new ones in this very beautiful part of France, which contains the type site for the Forez spleenwort.

On Monday we tackled Les Hautes Chaumes du Nord ski slopes (N45°40′42.3″ E3°49′01.2″) to seek out various lycophytes; *Diphasiastrum alpinum*, *Huperzia selago*, *Lycopodium annotinum* and *Lycopodiella inundata* were found. Notable ferns between the slopes in the Fagus-Abies woodland were *Athyrium distentifolium*, *A.* × *reichsteinii*, *Gymnocarpium dryopteris*, *Equisetum sylvaticum*, *Dryopteris cambrensis* and *D. oreades*, but the hunt for *D.* × *mantoniae* continues, since none of us were convinced we had found this hybrid with *D. filix-mas*. Jean-Charles then led us up to the satellite station on the ridge, where we sought out *Cryptogramma crispa*, an extremely rare fern in France.

Tuesday found us in a private nature reserve near Montbrison (N45°45′35.8″ E4°03′31.0″). Here there were a number of shallow lakes where we saw *Marsilea quadrifolia*, *Pilularia globulifera* and *Azolla filiculoides*. On the outskirts of Montbrison we were shown a large stand of *Equisetum* × *litorale* along a canal towpath (N45°37′18.5″ E4°04′02.7″). We then moved on to the Vizézy Valley (N45°37′13.6″ E4°00′56.2″), the *locus classicus* of *Asplenium*

foreziense. We walked down into the valley, over the bridge and up to a ruined chapel where we had lunch. Fern hunting as we returned along the path, we found *Trichomanes speciosum* gametophytes under overhanging rocks, and *Dryopteris cambrensis* and *Asplenium foreziense* nearer the river. We then scrambled up along the rocky hillside, where the highlight was *A.* × *costei* (*A. foreziense* × *A. septentrionale*).

photo: A. Leonard

***Asplenium foreziense* in its *locus classicus*, Vizézy Valley, France**

On Wednesday we were treated to a very different type of day. Rémy and Annie Prelli had prepared for us a very fine exhibit of fossil plants from the Upper Carboniferous (Stephanian Period) at the École Nationale Supérieure des Mines de Saint-Étienne. We had a fascinating introduction to the Carboniferous rocks of the Saint-Étienne basin by the institute's geologist, Bernard Guy, and then a wonderful illustrated talk on fossil ferns by Rémy. Saint-Étienne was at the centre of a very rich mining area and fossil seed ferns were especially well represented and preserved in the Upper Carboniferous Period. We went on to try our hand at fossil hunting on the outskirts of Saint-Étienne at a spoil tip managed by Eurovia (N45°27′02.6″ E4°25′21.1″), and finished the day at Planfoy (N45°22′57.7″ E4°26′30.1″) to examine the hybrid *Equisetu*m × *litorale* on the river bank.

On Thursday we drove down the mountain from our hotel and found ourselves in glorious sunshine below a castle in the Lignon Valley (N45°40′28.7″ E3°58′16.1″). Along a small stream we were introduced to a lot of plants in the *Dryopteris affinis* agg. Flow cytometry and chromosome counts had already established the identity of many of the plants, which had been carefully tagged. It was great fun trying to identify each plant and then being able to check whether or not you were correct. After lunch at the castle our next stop was a wood on the D118 road (N45°45′37.9″ E3°55′53.3″), where we saw *Asplenium* × *alternifolium* and *A.* × *ticinense* amongst their parents (*A. septentrionale* and *A. trichomanes*, and *A. adiantum-nigrum* and *A. onopteris*). At the Cascade de Liget (N45°45′35.6″ E3°56′15.6″) there were many of the usual woodland ferns and Karsten Horn told me that he had never seen so many *Polystichum setiferum* in one place. On the D97 road (N45°44′00.9″ E3°55′54.3″) under a bridge we were shown *P.* × *bicknellii* and whilst walking down the road we found three more *Asplenium* × *alternifolium*.

Further up the mountain from our hotel (N45°38′36.8″ E3°50′35.0″) we were rewarded on Friday with a large range of ferns, especially when we descended to a wood on a cliff edge. A search for *Dryopteris* × *sarvelae* amongst its parents proved fruitless alas.

Many people departed on Saturday but the rest of us went to the Barrage du Piney, La Valla en Gier (N45°25′37.6″ E4°30′59.3″), where we were shown *Asplenium obovatum* subsp. *lanceolatum* and its hybrid with *A. foreziense*, *A.* × *sleepiae*. Moving by car further up the barrage we saw *A. trichomanes* 'forma *loxodontum*' at (N45°24′50.6″ E4°30′15.6″). After roadside stops to see *Polypodium cambricum* and *P.* × *shivasiae*, we moved on to the the rarities *Notholaena marantae* and *Asplenium* × *centovallense* (*A. adiantum-nigrum* × *A. cuneifolium*).

Our grateful thanks go to Jean-Charles, a native of the region, and his wife Valou for all their kindness, patience and meticulous preparation of this highly successful GEP Meeting.

HORTICULTURAL SHOWS

GARDENING SCOTLAND, EDINBURGH – 3-5 June

Frank McGavigan

At the outset I have to confess that garden shows are not my thing – too contrived, too crowded, too commercial, so when it was first suggested that the BPS take a stand at Gardening Scotland, I was reluctant. However, my colleagues on the Education Subcommittee, Alison Evans, Yvonne Golding and Bridget Laue, were keen and, as if to prove me wrong, put on a magnificent display that caught the judges' eyes and won us a gold medal – no monetary prize, as we found out later, just glory. But what a magnificent achievement – well done, girls.

photo: A.F. Dyer

Yvonne Golding & Frank McGavigan on Gold Medal stand at Gardening Scotland 2011

Selecting from their own ferns and from some on loan from Binny Plants, and under the critical eye of Yvonne (who has an intuitive idea of what the judges are after, rejecting more ferns than she selected), the team built up a display of contrasting frond shapes and defect-free plants over an intensive one and a half days of getting everything just right. Even the display of BPS leaflets was fussed over to perfection. The theme was to show off to the gardening public the beguiling beauty, intriguing interest, and huge variety of ferns that can be grown outside, in the greenhouse and in the home. I won't bore you with the list of ferns on display, not that I can remember them all; suffice it to say that there were enough that did not look like typical ferns to draw curious visitors in for a general chat about ferns and fern cultivation. With luck, some of these will be encouraged to grow more ferns in their own gardens, and perhaps even become members of the BPS.

Ferns were also on display on the stands of Binny Plants, Hartside Nursery, Kevock Garden Plants, and a magnificent display was put on by Martin Rickard for Bowden (a new venture for this hosta specialist). Additional publicity was gained from an article on ferns in the

gardening section of *The Herald* (Scotland's premier quality newspaper) a fortnight before the show, and from an interview that Mary Gibby gave BBC Radio Scotland on the stand. Binny Plants have told me that since the show they have received enquiries about our 'Fern Gardens of Scotland' leaflet.

This, surely, is the point: if we want to increase the Society's membership and more generally promote the cultivation of ferns, we must access the gardening public and certainly one of the best ways of doing this is to exhibit at shows. But, boy, is it hard work. We all agreed that the BPS needs a Shows Subcommittee to help and guide regional groups to exhibit at their local shows. There's enough interest in ferns out there – it just needs a bit of encouragement, and shows are the way to do it. I confess it – I'm converted.

SOUTHPORT FLOWER SHOW – 18-21 August — Michael Hayward

The new layout of the Societies Marquee at Southport, introduced last year, is now well established. This year we were allocated a corner stand in the central block, which gave us an increased area of table space to make use of. Each year the Show has a theme, introduced to try and prevent exhibits becoming stereotyped. The theme this year was 'Heritage', and we made use of an enlarged photograph of BPS members at the 1898 meeting in Bowness, flanked by full-size facsimiles of Jones Nature Prints, with matching ferns in the exhibit below. The potted ferns were arranged on three levels, with a small planted area on the lowest level. The Society posters were mounted behind the sales table on the other corner and a display on growing from spores completed the table. The judges were very favourably impressed, commenting that they particularly liked the educational content of our exhibit. They also liked the fact that all of our pots in the main exhibit were matching, and they liked to see a planted area. We were very pleased to be awarded a gold medal.

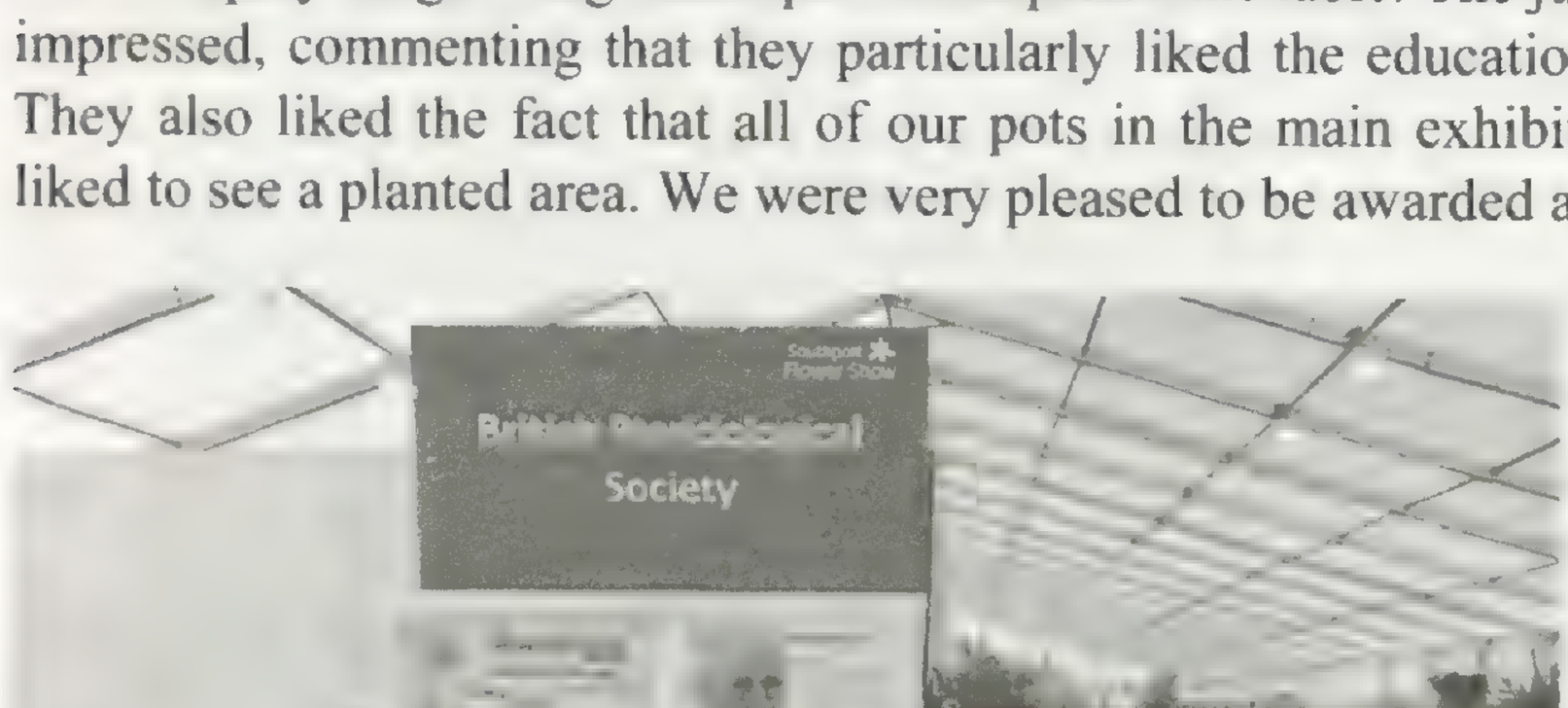


photo: M. Hayward

Robert Crawford on BPS stand at Southport Flower Show 2011

The Show was well attended this year, despite the recession. In the Societies Marquee the mornings were relatively quiet, with increasing numbers of visitors from lunchtime onwards. This year we were able to give away free ferns to those newly joining, thanks to the generosity of Tim Penrose of Bowden's Ferns, and eight new members were recruited for the Society.

After a very difficult year for fern growing, many of us had problems in preparing ferns free from blemishes for the show and it was not surprising that entries for the competitive classes were significantly down. Yvonne Golding again won the BPS challenge cup for the individual championship. Exhibiting for the first time, Robert Crawford won the Happilands Trophy for the highest number of first prizes in the remaining classes. Martin Rickard, who was judging, was particularly pleased to see a well grown specimen of the

original *Athyrium filix-femina* 'Victoriae' with fronds well over 100 centimetres in length, exhibited by Robert in class 10.

The winners of the competitive classes were:

Class 8 Individual Championship. Four hardy British Ferns (dissimilar), two Greenhouse Ferns (dissimilar) and two Foreign Ferns Hardy in Great Britain: 1st Y. Golding, 2nd B. Russ (2 entries)

Class 9 One Foreign Fern Hardy in Great Britain: 1st Y. Golding, 2nd S. Manser, 3rd B. Russ (3 entries)

Class 10 One British Fern (any genus or variety): 1st R. Crawford, 2nd O. Fairclough, 3rd M. Hayward (7 entries)

Class 11 Three Hardy British Ferns (3 distinct species, not varieties): (no entries)

Class 12 One Greenhouse Fern: 1st R. Crawford, 2nd O. Fairclough, 3rd M. Hayward (3 entries)

Class 13 One *Asplenium scolopendrium*: 1st R. Crawford, 2nd Y. Golding, 3rd B. Russ (3 entries)

Class 14 One *Polypodium*: 1st Y. Golding, 2nd R. Crawford, 3rd S. Manser (3 entries)

Class 15 Three *Polystichum* (3 distinct varieties): (no entries)

Class 16 Three *Athyrium* (3 distinct varieties): 1st S. Manser (1 entry)

Class 17 Three *Asplenium* excluding *A. scolopendrium* (3 distinct varieties and/or species): (no entries)

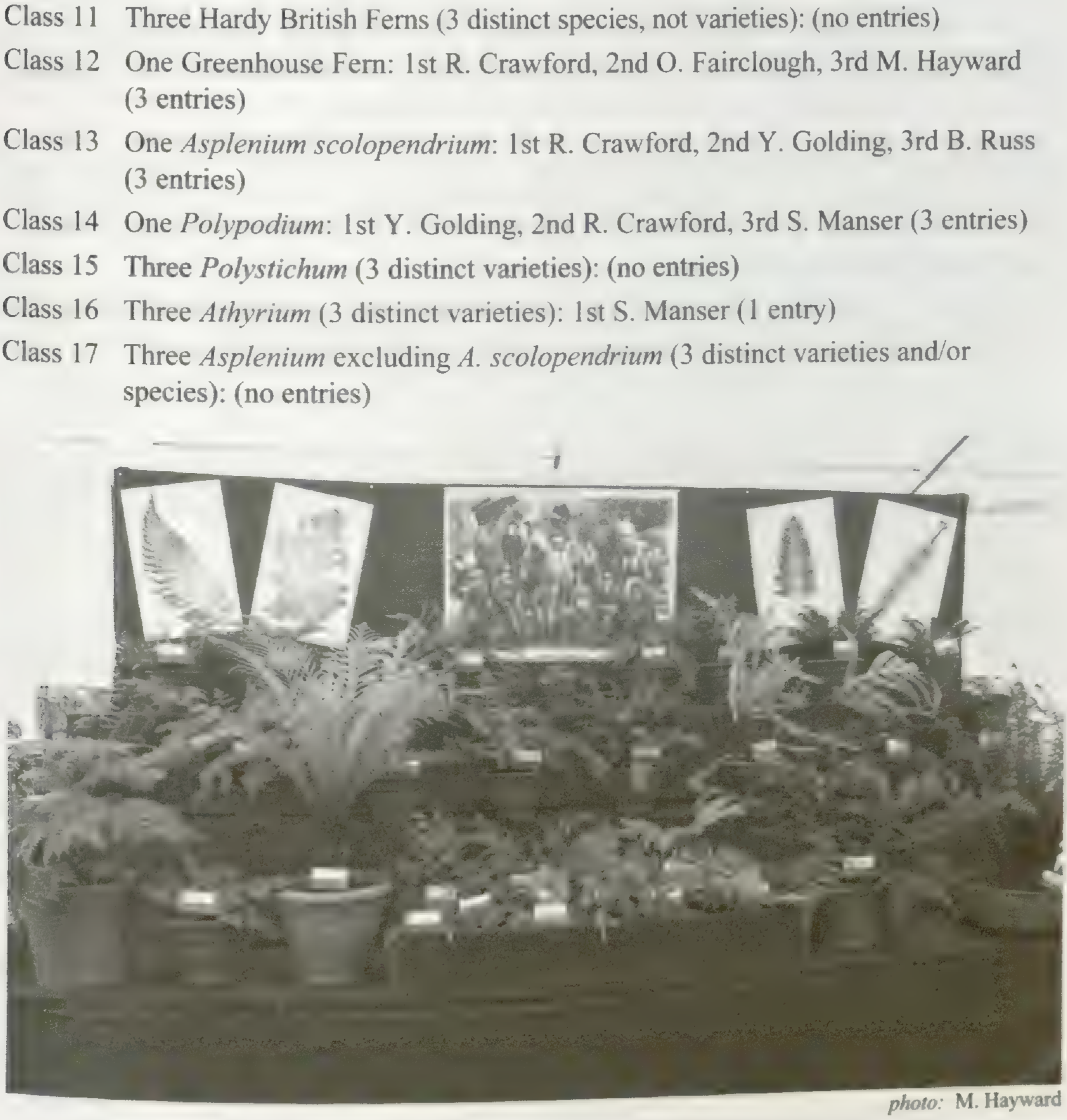


photo: M. Hayward

BPS Gold Medal stand at Southport Flower Show 2011

Many thanks to Ruth Berry-Piearce, Robert Crawford, Roland Ennos, Yvonne Golding, Alec Greening, Rita Hardman, Joan Hindle, Trevor Piearce and Harvey Shepherd for manning the stand this year. We would welcome occasional visits from members from further afield to assist on the stand. We aim to have four members on duty each day, with two manning the stand and the other two exploring the show, and it is a very sociable occasion. Southport is a good stopping point on the way to visit the Lake District, and sleep-overs can be arranged as necessary. The dates for next year's show are 16-19 August 2012.

SECRETARIAL NOTES

Please note: *names and contact details of all officers can be found on the inside of the front cover of this* Bulletin.

ANNUAL GENERAL MEETING 2012 – The 109th AGM will take place on Saturday 14th April 2012 at The Natural History Museum, London at 2p.m.

SUBSCRIPTIONS 2012 – Members are reminded that subscriptions were due on 1st January and should be paid to the Membership Secretary. Cheques should be made payable to 'The British Pteridological Society'. Current rates are given inside the front cover of this issue. Payment can be made by **PayPal**, which is quick, cheap and easy to manage. Instructions are given on the renewal form. **Standing Order** forms are printed on the reverse of renewal forms and are also available from the Membership Secretary and the BPS website. Standing Orders may be paid on 1st January or 1st February. In either case, membership is deemed to be from 1st January to 31st December.

Members are reminded that according to Clause 11 of the Constitution "Any member whose subscription is unpaid within six calendar months of it becoming due shall be liable to have his/her name removed from the list of members of the Society". Defaulting members who do not amend their Standing Orders with their bank and are still paying at the old rate shall be notified that they will not receive the *Fern Gazette* until such time as their Standing Orders are updated. Members still paying even earlier rates shall be notified that their name will be removed from the Membership List until such times as Standing Orders are updated or cancelled. Any monies received from old Standing Orders will be treated as a donation.

GIFT AID – Since 2003 the BPS has been a registered charity. This enables us to claim back from the Inland Revenue 20p for every pound paid in the annual subscription for each member who authorises us to do so. In 2011 we were able to claim for 164 members, which brought in almost £900. While this is obviously an extremely valuable addition to the Society's annual income, it could be considerably more if all eligible members authorised it. All that is required is a minimal amount of form filling and a second class stamp. **Even better, the form has only to be filled in once.**

The small number of provisos is set out below:

1. Gift Aid is available only to members who reside in the UK.
2. Members on whose subscription Gift Aid is claimed must be paying income tax or capital gains tax at least equal to the amount claimed.
3. Members whose subscriptions are allowed as an expense in connection with their employment may not claim Gift Aid.

If the Inland Revenue allows us to claim relief on your membership subscription please authorise us to do so. It's the equivalent of a yearly £4 donation to the Society.

PUBLICATIONS BY AIRMAIL – Our journals can be sent by airmail to overseas members, provided that they advise the Membership Secretary and pay an additional subscription to cover airmail postage. See inside front cover for rates.

E-MAIL ADDRESSES – These are published in the Membership List "for members who have a relatively stable e-mail address and who keep up-to-date with their messages". A supplementary list and amendments are published in the *Bulletin*. Members who wish to have their e-mail address added, changed or removed are requested to inform the Membership Secretary by e-mail.

NOTIFYING CHANGES OF ADDRESS – Please inform the Membership Secretary of changes of address and telephone number. He is responsible for notifying any other officers and appointees who need to know.

CODES OF SAFETY, CONDUCT AND DECLARATION FORM – All members attending Society field meetings should be aware of the Society's *Safety Code* (see 2000 *Bulletin* 5(5): 275), as well as the *Code of Conduct for the Conservation and Enjoyment of Wild Plants* (see 1999 *Bulletin* 5(4): 199), and are required to sign an annual Declaration form (circulated with the autumn mailing). Copies of these documents can be obtained from the Meetings Secretary or BPS website.

PAYMENT OF EXPENSES – The Treasurer has *Rules for Seeking Reimbursement of Personal Travelling and Administrative Expenses* by Officers and Members acting on behalf of the Society. Forms for claiming these expenses can be obtained from the Treasurer by phone or e-mail request.

COPYRIGHT – All contributors to the BPS journals and website are required to sign an agreement assigning ownership of copyright of the article, photograph etc. to the BPS. This has the aim of safeguarding the contributors' work from unlawful copying and use. It does not stop contributors from using their own work elsewhere provided that they acknowledge the original source of publication.

GREENFIELD FUND – This fund, set up as a memorial to one of our Society's great fern growers, Percy Greenfield, is used to finance approved projects, helping with the cost of necessary equipment, books and travel expenses. Percy Greenfield's interest leaned very much towards the non-scientific side of our activities and it is felt that he would have wanted this taken into consideration when decisions are made. Workers eligible for university or college grants and similar support are not therefore eligible for help from the fund. Anyone wishing to apply for this funding should contact the General Secretary.

CENTENARY FUND – This fund is used to promote the study of all aspects of pteridophytes – horticultural, scientific and educational, whether by amateurs, students or professional pteridologists. As such its scope is much broader and more flexible than the Greenfield Fund. Anyone wishing to apply for this funding should contact the General Secretary.

THE J.W. DYCE AWARD – This award was set up in 2007 to honour the memory of Jimmy Dyce who was a member from 1935 until his death in 1996. The fifth J.W. Dyce award will be made at the AGM 2012 to the author(s) of the best paper, article, book or other substantial piece of work published during 2011 in any of the three BPS journals, on the BPS website or as a special publication. The award, which is a cash prize of £100, is open to everyone, whether professional or amateur pteridologist, horticulturalist or fern enthusiast.

MEMBERS' INFORMATION SERVICE – Members often require information and advice on many aspects of pteridophytes but are reluctant to ask or simply do not know where to obtain help. Queries from members on the identification or cultivation of ferns should be sent to the Horticultural Information Adviser.

BACK NUMBERS OF JOURNALS – We have a large number of back issues of our journals and it is a shame that more members of the Society do not avail themselves of them. Those that do frequently wish they had done so long ago as they contain a wealth of fern material. They can be obtained from the Back Numbers Organiser, Pat Acock, who will gladly lighten his loft. You can also have a sample pack for £6 including postage.

FOREIGN FERN SOCIETY JOURNALS HELD BY THE SOCIETY – The Society exchanges journals with a number of other fern societies in the world. We have a collection from societies in America, Australia, India and the Netherlands. If members would like to browse these, please contact Tim Pyner (t.pyner@btinternet.com) who holds the stock.

READING CIRCLE – The Society operates a reading circle for the *American Fern Journal*, a quarterly publication containing much information for those seriously interested in ferns. The *Fiddlehead Forum*, which publishes many 'ferny' items of interest to the amateur grower, accompanies it. To receive these journals contact Tim Pyner (t.pyner@btinternet.com).

NEW CULTIVAR SPECIAL INTEREST GROUP – The Cultivar SIG was recently formed for anyone with a specialist interest in cultivars. They organise field trips, speakers and garden visits. Information is available from Tim Brock and Julian Reed at Cultivars@eBPS.org.uk.

BPS WEBSITE – www.eBPS.org.uk (hosted by The Natural History Museum.) In today's internet-oriented world, it is increasingly important for the Society to see its website as a major means of communication. The website provides information for the membership, but it is also, and perhaps more importantly, a 'shop window' to present the Society and pteridology to the wider world. Our aim is to make our website the premier source on the internet of information about pteridophytes and pteridology. In addition to the usual enhancements to the website, we continue to support our public bulletin board or 'forum' for the discussion of all aspects of ferns and other pteridophytes – **www.fernforum.net/bb**. There is a system of 'content providers' for specific areas of the website, which is designed to improve the quantity of good quality information. Members with views on what the website should provide and/or with offers to help with content should contact the Website Editor, Anthony Pigott. Good digital photographs of members involved in fern-related activities are particularly welcome as are suggestions or contributions for wild sites, gardens and nurseries for *Where to See Ferns*.

E-BPS DIARY SYSTEM – On our website there is an eBPS Diary System, enabling us to see all the Society's events on one calendar. With meetings happening all over the country it is only too easy for events to overlap; we hope the diary system is helping to alleviate this and proving to be a useful planner for members. The system relies on regular updates so please send details of your BPS events to the Committee Secretary, Graham Ackers.

FERNS IN MEMBERS' GARDENS - 'Ferns in Members' Gardens' is now live on 'Pteridowiki' www.fernforum.net/mediawiki. Lists of ferns that members of the Society grow in their gardens are being compiled. In part, this is to build up a picture of which ferns grow in the different conditions around Britain. However, it is not limited to outdoor ferns, nor is it limited to Britain – contributions from members elsewhere in the world are welcome. When you contribute your list of ferns a general location (without detailed addresses) will be included together with contact details if you are happy for other members to see your garden. Browse around and see what you think. There are only a few contributions so far so to help build up a wider picture please contribute by contacting Roger Golding at rg@rogergolding.co.uk.

AMERICAN FERN SOCIETY – The AFS has a reciprocal payment arrangement with the BPS through their respective Membership Secretaries. See AFS advert on p. 375.

ROYAL HORTICULTURAL SOCIETY – Our Society is affiliated to the RHS. This enables a limited number of members to enjoy certain privileges in connection with RHS Shows, competitions and services. Some RHS Journals are available free to members at indoor meetings. Further information is available from the Treasurer.

BRITISH WILDLIFE – Concessionary individual subscriptions to *British Wildlife* magazine are available to BPS members: www.britishwildlife.com. This excellent journal occasionally carries articles on ferns and reviews fern publications.

MERCHANDISE – Have you bought a BPS sweatshirt, polo shirt or fleece yet? These are all dark green with a small embroidered BPS logo in yellow. Other items, such as BPS ties, metal badges, ferny greetings cards, bookmarks, pens, calendars and mugs are also for sale. There are also some newer lines including jute bags and reasonably priced hand lenses. Can't find your order form? Contact the Merchandise Organisers or look on the website for details. The Organisers also welcome suggestions for new stock.

BOOKSALES – It has become more difficult to find second-hand fern books at reasonable prices so if you are thinking of selling any of your books please consider first offering them to the Society. Frank Katzer would also be pleased to receive any donated or bequeathed books that could then be offered to members at affordable prices. Contact him by e-mail if possible.

SPORE EXCHANGE – The current spore list is published on our website or can be obtained from Matt Busby.

PLANT EXCHANGE – This scheme enables UK and EU members to dispose of surplus ferns to the advantage of those who would like to acquire some different species and varieties. Most of the plants offered are young sporelings. A request form is enclosed with the *Bulletin* mailing inviting members to list ferns they wish to offer or indicate any they are seeking or merely to request a copy of the consolidated list when compiled. On receipt of the list, members contact one another using the details provided. Contact the Plant Exchange Organiser for further details.

NURSERY ADVERTISEMENTS – Members with nurseries that offer ferns are reminded that they may place an advertisement in the *Bulletin*, *Pteridologist* and on the website, free of charge in return for the inclusion of a note about the Society in their catalogues. The Website Editor can include an image if required. If members wish their nursery to be included, in the first instance please contact the General Secretary.

PUBLICITY & MARKETING – Our Publicity and Marketing Officer has certainly made an impact since she was appointed in 2011. Three issues of the on-line newsletter *Fern World* have already been published. Please send her any ferny news or anything you want publicised. She has also set up our own BPS blog on Posterous and we are on Facebook and Twitter. Please contribute by signing up. Contact Liz Evans.

EDUCATION – The Education Subcommittee would be very pleased to hear your ideas on how we can develop the educational role of the BPS. If you have information about any fern-related educational initiatives or resources that you have found useful please contact the Education Officer.

FERN RECORDS – Members are reminded that records of ferns, horsetails, clubmosses and quillworts in the wild should be sent in the first instance to the BPS Recorder, Fred Rumsey, who will forward them to the Botanical Society of the British Isles (BSBI), or members may like to contact the appropriate Vice-county recorders directly. Their addresses are available from the BSBI website or BSBI yearbook (available to all BSBI members); for those without access to the Internet or yearbook please contact the BPS Recorder for details. Fred has developed a new recording card, which is available on our website or directly from Fred.

FORTHCOMING EVENTS, 2012:

SOUTHPORT FLOWER SHOW, 16th-19th August – Why not spend a few hours or a day helping to look after the Society's stand? You do not need to be an expert on ferns or fern growing, just prepared to spend a few hours or a day with us. Expenses are available, as well as free entry to the Show. If you grow ferns, why not consider entering your best specimens; Southport is one of the few shows with amateur classes for ferns. Details are available from Michael Hayward, 6 Far Moss Road, Blundellsands, Liverpool L23 8TQ; mhaywardL23@blueyonder.co.uk.

FERN COURSES 2012:

ROYAL BOTANIC GARDEN EDINBURGH, 9th June – Fern Identification: a 1-day course. Tutor: Heather McHaffie. To book, contact RBGE education office 0131-248-2937 or e-mail education@rbge.org.uk.

FSC KINDROGAN FIELD CENTRE, 2nd-6th July – Fern Identification: a residential course. Tutor: Heather McHaffie. To book, contact the Field Studies Council on 01250-870150 or e-mail admin.kd@field-studies-council.org.uk.

FSC PRESTON MONTFORD FIELD CENTRE, 18th August – Field Guide to Fern Identification: a 1-day course. Tutor: Mark Duffell. To book, contact the Field Studies Council on 0845-3307378 or e-mail admin.pm@field-studies-council.org.uk.

FSC RHYD-Y-CREUAU – DRAPERS' FIELD CENTRE, 10th-13th August – Fern Identification: a residential course. Tutor: Chris Metherell. To book, contact the Field Studies Council on 01690-710494 or e-mail admin.rc@field-studies-council.org.uk.

ANNUAL GENERAL MEETING 2011

MINUTES of the 108th Annual General Meeting of the British Pteridological Society held on Saturday 9th April 2011 at the Dunchurch Park Hotel, Rugby at 14.00 hrs.

IN THE CHAIR: The President, Prof. Mary Gibby.

PRESENT: Graham Ackers, Pat Acock, Clive Brotherton, A.R. (Matt) Busby, Peter Campion, Jonathan Crowe, Brian Dockerill, Sue Dockerill, John Edgington, Alison Evans, Roger Golding, Yvonne Golding, Alec Greening, Malcolm Hancock, Eleanor Hards, Nick Hards, Michael Hayward, Clare Kitchen, Mark Kitchen, Elise Knox-Thomas, Brian Laney, Andrew Leonard, Howard Matthews, Frank McGavigan, Karen Munyard, Steve Munyard, Alan Ogden, Alison Paul, Anthony Pigott, Tim Pyner, Michael Radley, Martin Rickard, Paul Ripley, Pamela Simpson, Brenda Smith, Bryan Smith, Gill Smith, Ray Smith, Barrie Stevenson, Sandy Strang, Peter Tindley, Alistair Urquhart.

Item 1 – APOLOGIES FOR ABSENCE: Rob Cooke, Peter Freshwater, Jennifer Ide, Matt Stribley, Alastair Wardlaw, Joan Watson, Lesley Williams.

Item 2 – APPROVAL OF THE MINUTES: Minutes of the 107th Annual General Meeting of the British Pteridological Society held on Saturday 10th April 2010 and published in the *Bulletin* (Vol. 7, No. 3) were approved and signed by the Chairman.

Item 3 – MATTERS ARISING: There were none.

Item 4a – REPORT OF THE GENERAL SECRETARY: This report, which was published in the *Bulletin* (Vol. 7, No. 3) was read out by its author, Yvonne Golding.

Item 4b – REPORT OF THE TREASURER: The Society's accounts for 2010 were published in the *Bulletin* (Vol. 7 No. 3), and the Treasurer, Gill Smith, related some of the highlights as published in the Notes to the Accounts. In particular, the significance of Note 9 was emphasised, where the new Credit Card Protection Scheme required everyone accepting credit cards to pay £22.50 per month. Because of this, efforts would be made to encourage people submitting payments to use PayPal instead.

Item 5 – QUESTIONS ON OFFICERS' REPORTS: The Officers' Reports were published in the *Bulletin* (Vol. 7, No. 3). There were no questions or comments.

Item 6 – QUESTIONS ON COMMITTEE APPOINTEES' REPORTS: The Committee Appointees' Reports were published in the *Bulletin* (Vol. 7, No. 3). There were no questions or comments.

Item 7 – ELECTIONS

Vice-Presidents. Matt Busby and Adrian Dyer had come to the end of their three-year term of office, but both were available for re-election. This was proposed by Frank McGavigan, seconded by John Edgington, and both were duly re-elected as Vice-Presidents for another three-year term.

Officers. As Rob Cooke had indicated his wish to retire as Meetings Secretary, during the year the Committee had appointed Bryan Smith in his place. The formal election of Bryan to this Officer's post was proposed by Paul Ripley, seconded by Nick Hards, and he was duly elected. The committee had also appointed Liz Evans to the new post of Publicity and Marketing Officer. Her formal election to this Officer's post was proposed by Anthony Pigott, seconded by Frank McGavigan, and she was duly elected. The remaining Officers were all available for re-election, proposed by Michael Hayward, seconded by Martin Rickard, and they were duly re-elected en bloc. [General Secretary: Yvonne Golding, Committee Secretary: Graham Ackers, Treasurer: Gill Smith, Membership Secretary: Mike Taylor, Conservation Officers: Heather McHaffie and Fred Rumsey, Project Officer: Anthony Pigott, Publications Secretary:

Martin Rickard, *Fern Gazette* Editor: Mary Gibby, *Pteridologist* Editor: Alec Greening, *Bulletin* Editor: Alison Paul, Website Editor: Anthony Pigott; Education Officer: Alison Evans.]

Elected Committee Members. Having served her five-year term of office, Sylvia Martinelli retired at the AGM. Bryan Smith, having been elected to the Officer's post of Meetings Secretary thereby also stood down as an Elected Committee Member. Although there were now three Elected Committee Member vacancies, no new nominations had been received. The seven existing members were all available for re-election, and this was proposed by Clare Kitchen, seconded by Matt Busby and they were duly re-elected en bloc. [John Edgington, Roger Golding, Bridget Laue, Howard Matthews, Frank McGavigan, Paul Ripley, Matt Stribley.]

Independent Examiners. Nick Hards and Alex Storie had agreed to continue in this capacity.

Item 8 – ANY OTHER BUSINESS

J.W. Dyce Award. Martin Rickard announced that this had been won jointly by Daniel Yansura for his *Pteridologist* article 'The use of scales in tree fern identification', and Joan Watson for her *Pteridologist* article 'Pteridophytes in the English Mesozoic'. Unfortunately neither could be present to receive their awards.

Fern Horticultural Workshops. Matt Busby suggested that the Society should organise some one-day fern horticultural workshops, perhaps with an emphasis on propagation, and run in different parts of the country. Alison Evans pointed out that Liz Evans was in the process of analysing results from a recent survey of members' preferences for workshop subjects and will put them into the next electronic newsletter. Yvonne Golding suggested that workshops could form initiatives at Regional Group level. As Meetings Secretary, Bryan Smith reported that the Subcommittee were proposing that 2013 be designated as the BPS year for fern cultivation. The 2012 Autumn meeting would be focused on fern biology. Pat Acock pointed out that the 2011 Autumn meeting at Kew would also focus on fern cultivation.

Publicity Newsletter. Alison Evans reported that Liz Evans would be issuing a new newsletter soon, and requested that any contributions should be sent to Liz. Nick Hards pointed out that the electronic newsletter format and print size made it difficult to read.

E-mail Circulation to All Members. Graham Ackers encouraged all members with e-mail to subscribe to Liz's newsletter, as that would enable wide e-mail circulation to members, which could prove very useful in 'emergency' type situations [e.g. the change of an AGM venue!].

Volunteers for Scottish Shows. Frank McGavigan requested volunteers for the 'Gardening Scotland' horticultural show BPS stand on 3-5 June, and the 'Ferns and Fossils' event at the RBGE Gateway on 24/25 September.

Contributions to BPS Publications. Anthony Pigott highlighted all the various publications, both electronic and paper, that the Society produces, and thought it most commendable that we were 'punching above our weight' for a Society of our size. He encouraged all members to consider contributing to these publications.

Spore Exchange. Matt Busby reported that he had found it useful to put a reminder on the Fern Forum for people to submit their spore requests, and this had resulted in several more submissions.

Mary Gibby closed the meeting at 14.40 by thanking the Committee for all their hard work.

Graham Ackers
Committee Secretary

ACCOUNTS FOR THE YEAR ENDING 31 DECEMBER 2011 (*see overleaf*)

I have examined the accounting records maintained by the Treasurer of the British Pteridological Society. I certify that the Accounts are a true and fair view of the financial position of the Society.

Alexander Storie AIB Scot., Independent Examiner, Gordon, Berwickshire, 8 March 2012

BPS ACCOUNTS FOR 2011

	2010	2011
ORDINARY ACCOUNT		
INCOME		
Subscriptions (*see note 1*)	£13,877.46	£12,619.07
Interest (*see note 9*)	£141.03	£182.54
Booksales	£2,008.00	£3,124.18
Merchandise	£1,697.31	£689.55
Inland Revenue Gift Aid	£1,003.83	£896.16
Publishers Licensing Society	£474.19	£449.04
Donations (*see note 10*)	£315.30	£409.00
Kindrogan field course	n/a	£1,980.00
Other	£293.46	£15.00
TOTAL INCOME	**£19,810.58**	**£20,364.54**
EXPENDITURE		
Pteridologist	£5,248.83	£5,587.30
Fern Gazette (*see note 8*)	£3,308.24	£2,801.90
Bulletin	£5,569.46	£6,195.08
Printing & Stationery	£1,225.67	£315.98
Administration & Postage	£602.38	£389.72
Subscriptions to Societies	£38.00	£126.00
Plant & Spore Exchanges	£82.60	£83.56
Meetings (including Kindrogan field course 2011)	£372.88	£2,209.00
Merchandise	£1,516.31	£538.94
Trustees' Expenses	£985.10	£739.15
Archive Storage	£78.03	n/a
Booksales	£131.00	£2,016.06
Special Awards	£185.14	£100.00
Autumn Mailing (*see note 11*)	£1,571.78	£490.97
Credit Card Charges (*see note 7*)	£363.51	£307.72
Computer Leasing (*see note 5*)	£506.82	£462.37
Promotion & Advertising (*see note 2*)	£1,104.21	£224.99
Other (*see note 6*)	n/a	£370.00
TOTAL EXPENDITURE	**£22,889.96**	**£22,958.74**
Balance (income minus expenditure)	**–£3,079.38**	**–£2,594.20**
Brought Forward from previous year	**£34,880.87**	**£31,801.49**
Total in Ordinary Account	**£31,801.49**	**£29,207.29**
CENTENARY FUND (Restricted Account)		
Interest	£29.57	£38.73
Interest brought forward from previous year	£1,729.38	£1,164.29
Grant	£594.66	£0.00
Total Interest	**£1,164.29**	**£1,203.02**
Capital brought forward from previous year	£5,583.73	£5,583.73
Total in Centenary Fund	**£6,748.02**	**£6,786.75**

GREENFIELD FUND (Restricted Account)

Interest	£11.11	£12.97
Interest brought forward from previous year	£1,696.72	£1,207.83
Grant	£500.00	£0.00
Total Interest	**£1,207.83**	**£1,220.80**
Capital brought forward from previous year	£1,051.00	£1,051.00
Total in Greenfield Fund	**£2,258.83**	**£2,271.80**

PUBLICATIONS ACCOUNT

Brought forward from previous year	£10,960.96	£11,703.73
Income	£748.45	£637.36
Interest	£44.32	£67.18
Expenditure	£50.00	£27.50
Total in Publications Account	**£11,703.73**	**£12,380.77**

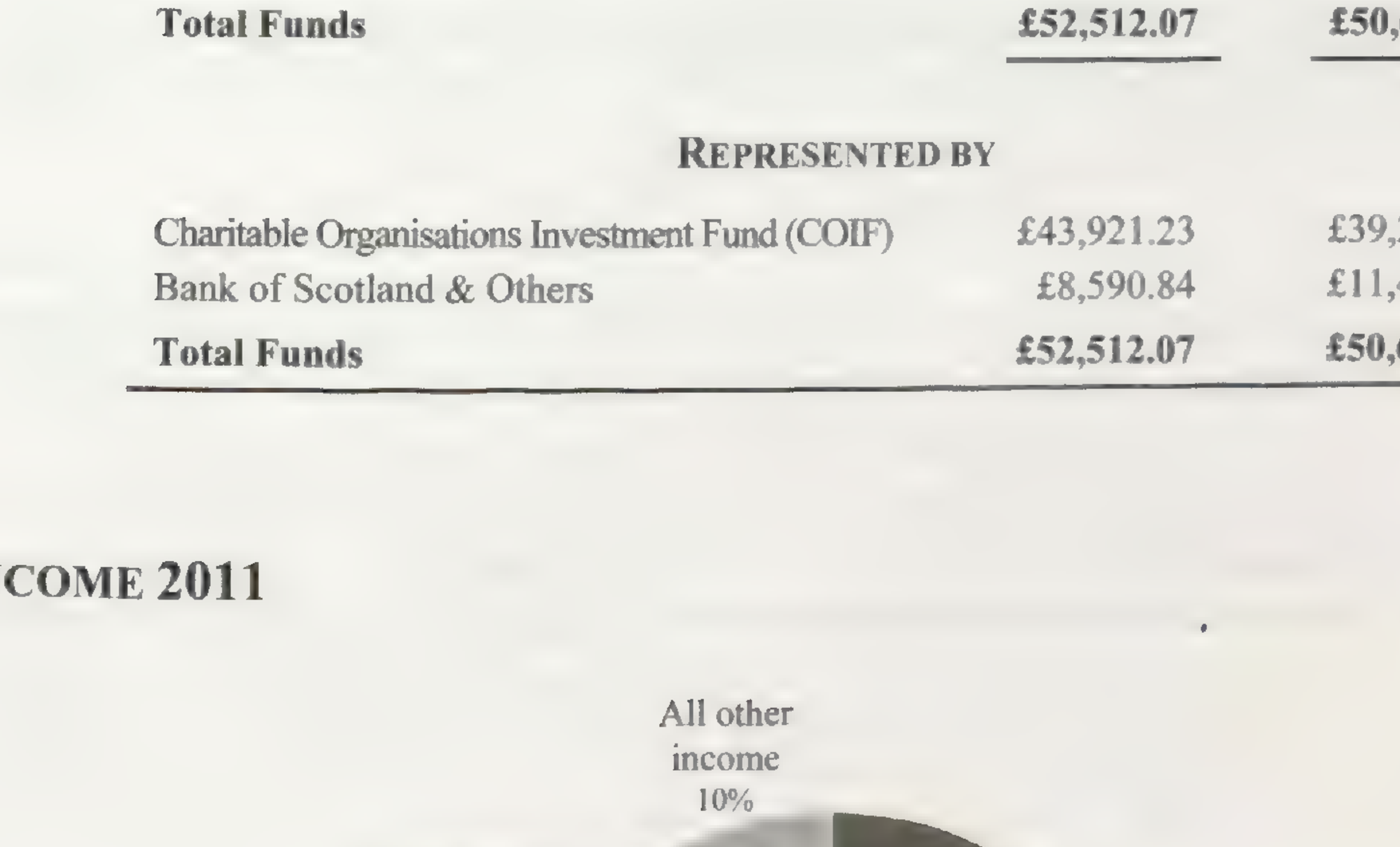
TOTAL FUNDS FOR YEAR ENDING 31 DECEMBER 2011

Ordinary Account	£31,801.49	£29,207.29
Centenary Fund	£6,748.02	£6,786.75
Greenfield Fund	£2,258.83	£2,271.80
Publications Account	£11,703.73	£12,380.77
Total Funds	**£52,512.07**	**£50,646.61**

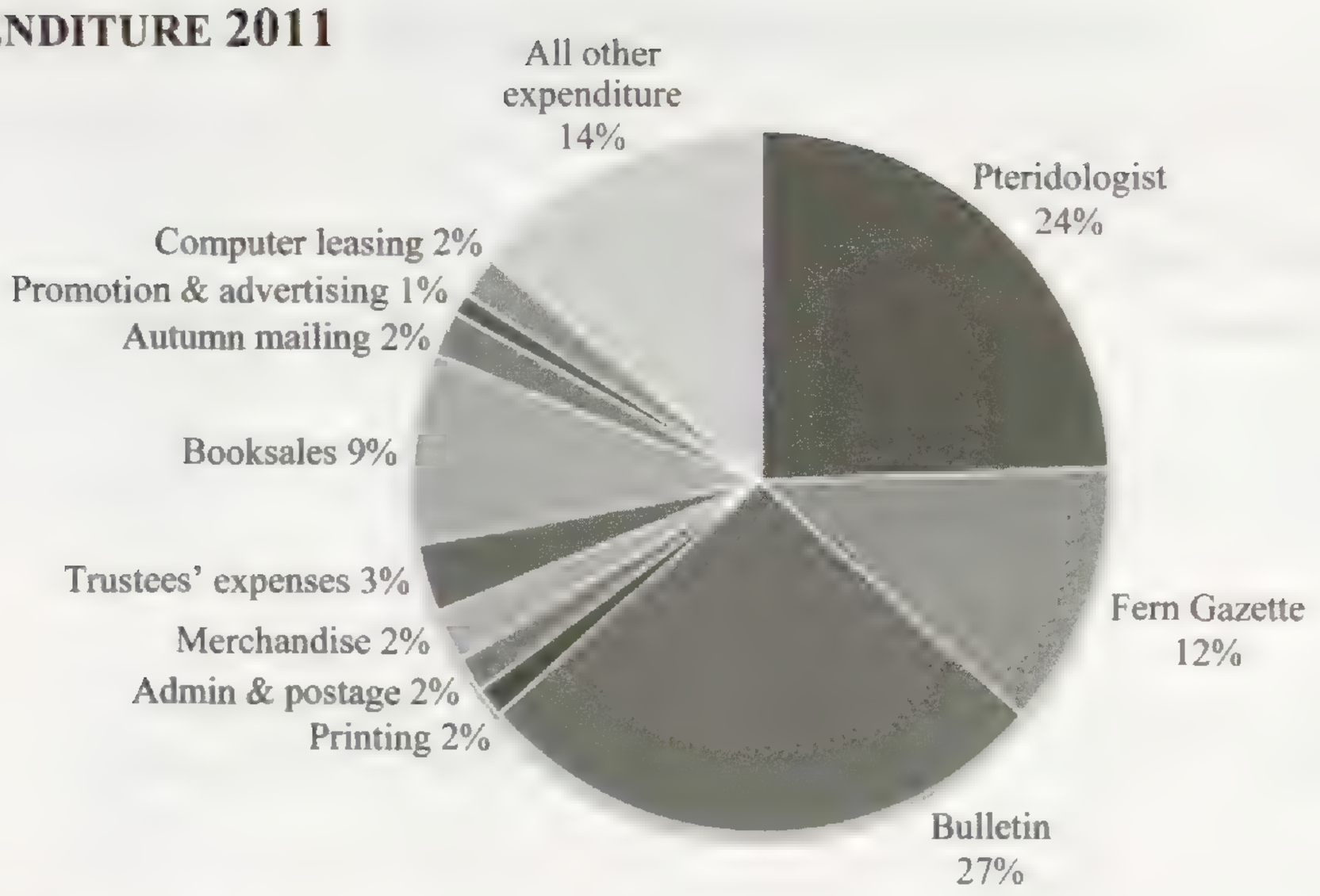
REPRESENTED BY

Charitable Organisations Investment Fund (COIF)	£43,921.23	£39,222.65
Bank of Scotland & Others	£8,590.84	£11,423.96
Total Funds	**£52,512.07**	**£50,646.61**

INCOME 2011



EXPENDITURE 2011



NOTES TO THE ACCOUNTS

1. The accounts reflect the subscriptions actually received in the year.
2. The Society has not paid an agency for advertising but has been promoting and advertising the Society where possible via RHS, BBC, county and national shows and public display days.
3. The Society possesses the following stock: FSC Key to Common Ferns – 100 valued at £200.
   Back issues of the *Bulletin*, *Fern Gazette* and *Pteridologist* valued at approximately £2,000.
   Merchandising valued at approximately £2,500 & capital of £1,537.65.
   Booksales – new and second-hand books valued at approximately £5,500 & capital of £3,777.95.
   BPS Special Publications entitled (no. copies) valued at: 2. Fern Names and their Meanings (49) £220; 3. Cultivation and Propagation (215) £1,075; 4. History of British Pteridology (642) £1,926; 5. BPS Abstracts & Papers (338) £1,006; 6. CD Rom – BPS Minute Book (19) £190; 7. Polystichum Cultivars (7) £87.50; 8. New Atlas of Ferns (47) £423; 9. Fern Books Before 1900 (343) £5,145; 10. Occasional Paper of the BPS (11) £27.50.
4. Only the 'Interest' section of the Restricted Funds is available for payment as grants. No grants were awarded in 2011.
5. Computers for specific BPS officers' use are being leased from Dell Computers. This gives the Society the ability to keep up with computer technology without having to invest capital funds.
6. A donation of £250 was given to Cornwall and Isles of Scilly Federation of Botanical Recorders (CISFBR) to help with the publication of *Ferns, clubmosses, quillworts and horsetails of Cornwall and the Isles of Scilly*.
7. As Credit Card charges are very high in proportion to the quantity and value of transactions AND BPS is encountering a lot of data input problems, it has been decided to withdraw this facility. PayPal is now the recommended payment route; this system is just as secure as credit cards but easier to use and with lower administration charges; you do not need to set up a PayPal account.
8. Only one issue of *The Fern Gazette* was produced in 2011 but this was the second 2010 issue. BPS has now two issues of *The Fern Gazette* outstanding, largely due to lack of copy. A small team has been set up to actively encourage submission of papers for the *Gazette*, which will hopefully bring us back in line by the middle of 2013.
9. Interest rates have still been very low and interest is no longer paid by Bank of Scotland on our current account. The COIF account interest rate started the year at 0.565% and finished the year on 0.757% – a very slight rise, which meant that only £182 interest was earned in 2011. This was the second year with little interest added to the funds, so a small amount (£5,000) had to be withdrawn from the deposit account to keep the current account afloat.
10. Donations include £200 prize money from Southport Show.
11. The 2011 Autumn Mailing was a trial run for sending information to members via e-mail. This was a partial success; some failures were due to the vagaries of different mail hosts and others due to the size of the documents mailed. Lessons have been learnt and this could be a money saver for the future as demonstrated by the lower cost of the 2011 mailing.

Gillian Smith, Treasurer

REPORTS OF OFFICERS & COMMITTEE APPOINTEES FOR 2011

GENERAL SECRETARY – Yvonne Golding

In 2011 the BPS committee first met in January at The Natural History Museum in London. We travelled to Dunchurch in Warwickshire for our AGM where we heard talks predominantly about urban ferns that could be found in London and Birmingham and alien ferns that occur in the UK. Changes in our Committee included the appointment of Liz Evans to the new post of Publicity and Marketing Officer, and Bryan Smith filled the vacant post of Meetings Secretary. This new committee met in May at Manchester Museum and again in October at The Royal Botanic Garden, Edinburgh. As you can see, your Committee travel up and down the country in order to run your Society.

At our AGM we awarded the fourth J.W. Dyce award jointly to Dan Yansura for his article *The use of scales in tree fern identification* published in *Pteridologist* and to Joan Watson for *Pteridophytes in the English Mesozoic* also published in *Pteridologist*. The award (of £100) is open to anyone who writes an interesting and informative article for any of our publications.

We were deeply saddened to learn of the death of Lesley Marshall-Williams in October. Lesley joined the Society in 1990 and was a regular on BPS excursions. We shall all miss her very much and send our condolences to her husband, Graham Ackers. We were also sorry to hear of the death of two other members. Margaret Kingston had been a member since 1964 and was a regular at meetings until the late 1980s. Rosemary Powis joined in 1999 and participated in South-East Group meetings. Their obituaries are published in the *Bulletin*.

The newly formed Education Subcommittee continues to work hard to inform the general public about ferns and last year more material was produced to enhance our presence at shows and for educational events. This included what has proved to be a popular give-away leaflet 'Ferns to grow in your garden'. We also developed a PowerPoint presentation to complement this leaflet. During the year I gave talks to Manchester Museum, Poynton Garden Club and Manchester Field Club. If you give talks about ferns then please let us know. Alternatively, if you would like to give talks but do not know where to start then please ask for a loan copy of our presentation. In September the Education Subcommittee took our 'Ferns and Fossils' roadshow to The Royal Botanic Garden, Edinburgh. This was co-ordinated by Heather McHaffie who produced some stunning new materials for use at these events. We hope to continue holding this event at different venues in future years.

An exciting new development for our Society was collaboration with the National Trust to organise fern walks at their properties. This was supported by a new fern guide, developed by Alison Evans, which describes the most commonly found ferns. The first event was held over four days in October at Nymans Estate in Sussex. We hope that Regional Group Organisers can link up with NT wardens in their area.

One of our aims in the BPS is to attend more shows and 2011 was particularly successful in this respect. In June we were represented for the first time at 'Gardening Scotland', which was hosted in Edinburgh by the Royal Caledonian Horticultural Society. The event was co-ordinated by Frank McGavigan with support from the Education Subcommittee. We were very proud to be awarded a Gold Medal for our display of ferns and we thank Binny's Plants for the loan of some additional plants to further enhance our display. In addition we attracted some new members. At Southport Flower Show we already have an historic annual presence, which is organised by Michael Hayward. This year was particularly successful, with Michael also earning a Gold Medal and your Secretary winning the BPS Challenge Cup for the second year running. In addition, many new members were acquired and we thank Bowden's Ferns for donating some additional incentives in the form of free plants. You will

have noticed that there seems to have been a strong northern bias in terms of events and shows. We urge all members, particularly those in the south, to get involved with shows in your area. It is a very enjoyable way to help raise the profile of our Society as well as ferns.

Another new development was the formation of a Special Interest Group (SIG) devoted to cultivars, run by Tim Brock and Julian Reed. We hope that those interested in cultivars will support this new group. If you have an interest in a specific group of ferns then why not start your own SIG?

We are delighted to have appointed Liz Evans to the new post of Publicity and Marketing Officer. Liz has been very busy devising Fern World, an on-line quarterly newsletter and dragging us into the 21st Century by enabling us to blog and twitter! She has also set up our own Facebook page. We hope this will encourage younger people to participate and join our Society.

Our regional groups continue to grow and we are pleased to announce a new Wessex Group, which is jointly run by Jo Basil and Mike Hill. We hope members will continue to support their local groups, many of which are actively involved with monitoring fern sites and collecting field records. This is a very valuable resource. I would like to encourage Regional Group Organisers to both continue and expand this important work by participating in the Photographic Recording Project, which involves visiting sites on a regular basis and keeping a photographic record. Further details are on the website.

I should say it has been another successful year for the Society but now, along with other similar societies, our membership is beginning to decline. We would like all our members to help raise the profile of the BPS by supporting our activities and initiatives, by perhaps organising your own events or by giving talks and, importantly, by encouraging friends and family to join the BPS and take an interest in ferns.

Happy ferning in 2012!

MEMBERSHIP SECRETARY – Mike Taylor

I am sorry to have to report that the number of members has dropped by 69 to 645. This is made up of 459 Full (of which 49 are family members), 74 Optional (of which 4 are family members), 32 Complimentary, 8 Honorary and 5 Student members, and 67 Subscribers. The number of Subscribers has again decreased, this year by 12 and the number of members who pay via the AFS has decreased by 9 to 81. This decrease in numbers is undoubtedly due in part to the current financial situation where membership of a learned society is probably not very high on most people's list of financial priorities.

MEETINGS SECRETARY – Bryan Smith

I took over this role from Rob Cooke early in 2011 after he had admirably led the Meetings Subcommittee for several years; I am grateful and relieved that Rob decided to remain on the subcommittee! We had a planning meeting in February but most of our business has been conducted by e-mail.

During 2011 we had another successful meetings programme with weekend visits to Exmoor and Leicestershire/North Derbyshire (both organised by Paul Ripley) and Perthshire/Angus (organised by Heather McHaffie), and a week's visit to the Isle of Man (organised by Jennifer Ide). One-day meetings included the AGM near Rugby (organised by Matt Busby) and a visit to Kew including fern propagation (organised by Nigel Rothwell). Overseas meetings included a week in Madeira (organised by Andrew Leonard) and the South-East USA (organised by the HFF). Reports on all of these meetings can be found in this *Bulletin*.

Details of meetings we have planned for 2012 were circulated with the autumn mailing and include visits to Wiltshire, Northumberland, South Africa and Austria/Bavaria, and two meetings at the NHM, London.

As always, the success of these meetings is dependent on members who voluntarily give up their time and effort to organise the trips. This is no mean feat, but the rewards are well worth it. If you fancy organising such a meeting, please do let one of the committee know. You won't be going it alone as we always allocate a subcommittee member as a liaison point for each meeting. In this context, we have also been updating the 'Guidelines for the Organisation of BPS Meetings' which, hopefully, will be available on the website as you read this. Please do let us know if there are any areas you would like to visit and study ferns.

Finally, I would endorse the fine work that Regional Group Organisers do in arranging trips 'on your doorstep'. If you are visiting an area on holiday, it is worth checking the on-line calendar to see if there's a meeting you can join.

CONSERVATION OFFICER – Fred Rumsey

There have been some very well publicised losses of plants this year, including the apparent removal of a large patch of *Hymenophyllum tunbrigense* from a National Trust property in Sussex. Sadly, whenever this happens members of the Society inevitably fall under suspicion. I am sure that such suggestions have no basis in fact and we all deplore such acts of vandalism; some 'losses' are almost certainly explicable through natural causes but we should all be vigilant and ensure that we continue to act responsibly. Members are quietly doing sterling work, monitoring rare species and getting their hands dirty doing practical conservation locally, yet this goes less noticed.

Some concerns have surfaced during the year that conservation work for other, dare I say more charismatic, organisms with more vocal lobbies (yes it's birds...) have been responsible for the damage and loss to a population of the Critically Endangered *Dryopteris cristata*. I will be looking into this, and if so trying to ensure that such collateral damage doesn't occur in future.

RECORDING OFFICER – Fred Rumsey

My thanks go to all those who have helped to make records, and to those who have collated the data and forwarded it to me. This year has again seen more records made on field meetings feeding back into the wider biological recording network and more members communicating with their local recorders, both of which are very encouraging.

The record card is now available to download and print off the BPS website. I would encourage all to use this. Please contact me if you want this and can't access it.

Herbarium studies continue to turn up overlooked and presumably native taxa (identity to be revealed in a future *Fern Gazette*!) and molecular work is helping to clarify the identity of others where long-standing doubts have been voiced. This includes a second British and first English site for the recently recorded *Equisetum* × *meridionale* (*E. ramosissimum* × *E. variegatum*), which, as with the first find, was previously misidentified as *E.* × *trachyodon*.

With a milder winter promised, please keep coming those records or observations of alien fern species escaped from gardens.

PUBLICATIONS SECRETARY – Martin Rickard

The *Bulletin* and *Pteridologist* continue to go from strength to strength. A change of editorship of the *Pteridologist* was hopefully not noticeable! Both editors still, however, need the continued support of the wider membership to maintain their extremely high standards. Our third journal, the *Fern Gazette*, is running late. This is due to the intensive non-Gazette workload of our Editor/President and lack of suitable copy. Copy is now at hand and hopefully the publication will shortly be back on schedule.

There have been no Special Publications for a few years now but several are in the pipeline. The next to appear will probably be a magnificently researched booklet on the Jones nature prints by Michael Hayward. It will run to about 100 pages and be supplied with a searchable DVD of all the published Jones prints. Copies will be produced on a 'print on demand' basis.

FERN GAZETTE EDITOR – Mary Gibby

Publication of the *Fern Gazette* has been interrupted through lack of appropriate copy. I am now able to report that thanks to the efforts of the committee in helping encourage potential authors, more manuscripts are now anticipated. The next part will be published in February 2012, and I anticipate a further part in early summer.

PTERIDOLOGIST EDITOR – Alec Greening

The 2011 *Pteridologist* again ran to 80 pages thanks to the support of the many authors who submitted articles for publication. The content was well received amongst the members, many commenting on the variety and depth of the publication. The previous printing error has now been overcome and the images in this issue were much improved. Hopefully this will continue as the new printing system allows proof checking at any stage.

This was my first issue as the main editor and, whilst there were typo errors, I was pleased with the final product and the positive feedback from members. The 2012 *Pteridologist* should contain at least 80 pages, with a wide range of articles ranging from horticultural advice on many subjects to the ferns of Paraguay and China. It is on track for publication in late May or early June. If you would like to submit articles for consideration in next year's issue please contact me.

BULLETIN EDITOR – Alison Paul

The 2011 *Bulletin* is another bumper issue with 100 pages, which demonstrates what an amazing number and range of meetings and other activities we have to report on. Many thanks to all those who sent in their contributions in good time, to those who submitted photographs and to everyone who responded so quickly to my – often last minute – queries!

WEBSITE EDITOR – Anthony Pigott

The website continues to develop, both with the usual updates of BPS information and with new features. We continue to work with a system of 'content providers' to enable more people to be involved in the acquisition and update of material for the website.

The BPS Fern Forum (http://www.fernforum.net/bb/) continues to grow and now has about 200 registered members. The Forum enables experts and enthusiasts from all over the world to exchange information about all aspects of pteridophytes. We see this as a significant service provided by the Society and one that enhances its visibility and standing.

We have also been trialling some innovative ways to implement features such as an expanded and revamped 'Where to see Ferns', 'Ferns in Members' Gardens' and a 'Hardy Ferns Guide' using wiki software that allows easy editing by several people. We expect some of this to 'go live' in the coming year. We continue to expand the use of e-mail and 'social networking' to enhance the way the Society communicates with its members. These are covered in more detail in the Publicity Officer's report.

As always, offers of contributions and other help are extremely welcome. A list of ways that people can help, large and small, is given on the website.

EDUCATION OFFICER – Alison Evans

The Education Subcommittee has had a busy and exciting year. We have been involved in events to increase public awareness of ferns, both in horticulture and in the countryside, and we have continued to make links with other organisations. We have also been developing educational material in the form of leaflets, posters, and web-based documents.

In May, Yvonne Golding and Alison Evans visited Moorbank Botanic Garden, University of Newcastle, to meet their Education Officer, manager, and a volunteer who is reorganising their fern collection. We hope to be able to collaborate with them on educational events in future, as well as helping them with fern identification. Yvonne has visited again recently and is well on the way to listing all their existing ferns.

In early June we had a stand at the 'Gardening Scotland' show in Edinburgh, where our fern display won a Gold Medal. Bridget Laue, Frank McGavigan and Yvonne Golding worked tirelessly to produce the display, which was very highly praised by the judges. There was considerable interest from the public, and also some media attention as we had been featured in *The Herald* newspaper, and our President, Mary Gibby, gave an interview to Radio Scotland. A full report appears elsewhere in the *Bulletin*.

Our next major venture was a weekend 'Ferns and Fossils' event for the public in the John Hope Gateway at the Royal Botanic Garden, Edinburgh in September. Heather McHaffie did the lion's share of the organisation for this extremely successful event, which attracted several hundred visitors over the weekend. Volunteers were kept busy talking to people about the fern and fossil displays, showing people how to go about growing from spores, and supervising the children's activities tables. We were able to re-use some of the interpretation material from our Manchester 'Ferns and Fossils' event, but Heather had to devise and produce several more posters for this event. Our aim is to develop a collection of interpretation material that can be used in a 'Ferns and Fossils' road show in different parts of the country. We hope to be able to try this out in the Yorkshire Museum in 2012, as there is already a well developed fernery there.

The 'Ferns and Fossils' event also gave us the opportunity to launch our leaflet on what ferns are suitable for different garden conditions. As this was well received, we are having the leaflet professionally printed for distribution at garden shows and when BPS members give talks on growing ferns. Yvonne Golding has developed a PowerPoint presentation that is complementary to this leaflet. We hope that both will be available on the BPS website.

We applied for an OPAL grant to fund the production of two basic leaflets on ferns. One of these will explain how ferns are different from other plants, and will include a new drawing of the fern life-cycle by Michael Hill. The second leaflet will be a basic photographic guide to the most common British native ferns, to be distributed to visitor centres where there are woodland trails. The aim is to encourage people to look for and possibly record ferns when they walk the woodland trails. Unfortunately, our application was not successful, but we are continuing to work on the design of the leaflets in the hope of attracting funding. The National Trust has been interested in collaborating with us, and in October we held guided fern walks for the public over four days at the National Trust's Nymans Gardens in Sussex. Here we were able to pilot our identification guide, 'customised' for the ferns at Nymans. We had enthusiastic feedback from the walk participants, and an invitation to repeat the event next year. We hope that regional group organisers will be able to arrange visits to National Trust properties in their area, to assess their suitability for similar events.

As always, we welcome your comments and suggestions about the educational resources provided by the BPS – please e-mail Education@eBPS.org.uk with your ideas.

PUBLICITY & MARKETING OFFICER – Lizzie Evans

There were some exciting events to publicise in 2011 – especially when the BPS stands at Gardening Scotland and the Southport Flower Show both won Gold Medals. Other than this, and a few items for the on-line *Fern World* Newsletters (which were published in January, May and August) not a lot of news has been sent to me, and so I have struggled to keep finding things with which to update the Social Media sites in between Newsletters. However, I do feel it is very important to at least have a presence on Facebook and Twitter, even if they are not frequently updated, and these sites link directly back to the BPS website so that on-line visitors can find out as much as they want to about the Society.

The mailing list I created currently has 163 subscribers, and as of December 2011 the three Newsletters have a combined viewing figure of 1,087. I think it is clear from these figures that the Newsletters are reaching the wider public and not just BPS members. The

Newsletters are available for viewing at: http://issuu.com/pterrythe-fern and details of how to sign up to the mailing list are included in each issue.

I also produced flyers for, and undertook the evaluation of, the fern event at Nymans, which the Education Officer has mentioned in her report.

This year has been a learning curve, and I hope to improve the Publicity channels in 2012. As always, if anybody would like a news item included in a Newsletter, or wishes to publicise an event through the Social Media channels, please contact me via the Publicity@eBPS.org.uk e-mail address. Thank you.

PROJECT OFFICER – Anthony Pigott

We currently have four main projects underway:

Recording & Mapping. This project will implement a number of items all aimed at increasing the participation of the BPS in the recording and analysis of pteridophyte distribution in Britain and Ireland. This will include encouraging members to make records and working with the BSBI to facilitate the input of new data and access to existing records. New recording cards have recently been produced and more progress is expected in the next year. (See also Recording Officer's report.)

Photographic Recording. This project is separate from but complementary to the Recording & Mapping Project. It invites people to take photographs of fern sites at different points in time with a view to learning about variations in conditions and abundance. The project was launched in April 2009 with full details on the website. Members are strongly encouraged to participate.

On-line Journals. The BPS decided to make back numbers of all its journals available on-line (other than issues from the most recent two years). There is a tremendous wealth of pteridophyte knowledge in those pages that is currently difficult to access and search. This project has looked at the technical and administrative issues involved. We intend to have the rest of our back numbers on the website in the next year.

Website Development. We see the website as being of increasing importance to the BPS and the way it communicates with its members and the public. This project continues to look at ways to get more people involved and to make our web activities easier to expand and develop. For more details, please see the Website Editor's report.

SPORE EXCHANGE ORGANISER – Matt Busby

I am pleased to report that all 104 requests were completed and sent out before the 1st April. Each year I look forward to adding new species to the list and I was pleased to see 15 new items added to the 2011 list. Each year any three-year-old spores are deleted from the list and I was pleased to take them to the AGM again for free distribution to members. I look forward to doing this every year. I should also like to advise members that my offer of *Osmunda* spores is in addition to the normal allowance of 20 items from the Spore Exchange list.

I make my usual plea to members for donations of spores to the Spore Exchange at any time. There is no need to clean the spores, just place fertile fronds in envelopes with a comment naming the species and the donor's name. It is a good idea to check through the 2012 list and see if you have items in your collections that are missing from the list. I am always pleased and willing to answer any queries about donating spores. Please e-mail any queries to Spores@eBPS.org.uk.

I thank all the 2011 donors for their support and also various Committee members for their advice.

PLANT EXCHANGE ORGANISER – Jonathan Crowe

Donor forms were distributed with the spring 2011 mailing. The Plant Exchange List was compiled and first distributed early in July 2011 followed by an augmented list early in August.

Statistics for taxa offered are shown below:

Status Code	Plant Status Description	No. in 2007	No. in 2008	No. in 2009	No. in 2010	No. in 2011
Sp0	Sporeling less than 1 year old	0	6	13	0	3
Sp1	Sporeling 1-2 years old	13	17	18	17	15
Sp2	Sporeling 2-3 years old	7	19	16	19	18
Esp	Established plant	7	20	30	42	12
Bul	Bulbil	1	6	5	4	3
Rhs	Rhizomes	1	1	4	6	3
	Plant status not stated by donor	0	0	0	0	0
	Totals	**29**	**69**	**86**	**88**	**54**

The statistics for participants are shown below:

Category of Participant	2007	2008	2009	2010	2011
Donors only (thus only offering plants)	7	4	6	6	6
Donors also having 'wants'	-	3	2	3	1
'Wanters' only (thus not offering plants)	-	-	-	2	1
List requesters only (neither offering plants nor having 'wants')	13	3	17	15	5
Total number of participants	**20**	**10**	**25**	**26**	**13**

By comparison with last year, participation in the scheme has halved and the number of taxa offered has dropped by almost 40 per cent.

BOOKSALES ORGANISER – Frank Katzer

Yet again it was very busy year for BPS Booksales and it was also a very successful year, with the sale of over £3,000 worth of books. The highlight of 2011 was the donation of Alastair Wardlaw's book collection at the beginning of the year, which I valued at £1,200 for Booksales purposes. I acquired another fern book collection to increase my stocks of older books and also copies of the latest books on ferns of La Réunion island and of Southern Africa. Otherwise, stocks of new books have been run down a bit because I moved house in the last quarter of 2011; please note my new contact details at the end of this report. I aim to increase book numbers again in 2012.

I have to thank Yvonne Golding for all her support and help with Booksales. Yvonne has taken books to many regional and committee meetings for me and thereby made books available to many more BPS members than I would have had contact with.

As usual, BPS Booksales will always welcome bequests of books or offers to purchase either individual books or whole collections. Please keep in mind that I can't offer internet prices, but then neither would bookshops. To contact me please use either my work e-mail: Frank.Katzer@moredun.ac.uk or the Booksales e-mail: Booksales@eBPS.org.uk. Alternatively I can be contacted by post: Frank Katzer, Highfield House, Muirburn, Skirling ML12 6HL Scotland, or by phone 0044 (0)1899 860 307.

MERCHANDISE ORGANISERS – Bryan & Gill Smith

Merchandise sales seem to be somewhat cyclic from year to year, and 2011 turned out to be a bit of a quiet year. We had around 20 mail orders (from the UK, USA, Denmark and

Switzerland), which compared with around 35 (from the UK, Australia, Canada, Germany, Netherlands and USA) in 2010. Face-to-face selling continued, and we sold merchandise at the Rugby AGM in April, and, as usual, members had the option to save postage by pre-ordering items for meetings we attended. Colleagues in the north sold merchandise at the Gardening Scotland show in Edinburgh in June, at the Southport Flower Show in August and at the AGM of the North-West Regional Group in October. Overall, sales amounted to just under £500, much less than in previous years. Further details can be found in the Merchandise section of the Treasurer's accounts.

Although the 2011 BPS calendar was reasonably successful, we decided to try and improve on sales by having the next one ready earlier in the year. As a consequence, we did not produce a 2012 calendar, but hopefully the 2013 calendar will be available for the 2012 AGM. It is still a struggle to encourage members to submit photos for the calendar, and even an appeal in the September on-line Newsletter proved unsuccessful.

The current merchandise list (March 2011), which was distributed with the *Bulletin* mailing, boasts some 18 ranges and a total of nearly 60 individual products. The list continues to be available through the BPS website, and we send out new order forms when we fulfil orders.

HORTICULTURAL INFORMATION ADVISER – Matt Busby

It has been a quiet year for me in this role. I received only three requests for advice and I am pleased to report that I was able to help resolve the problems. I am always pleased to help members with any cultural problems they may have with their fern collections but I am also happy to advise on other plant groups.

ARCHIVIST – Matt Busby

The Society's archive is now housed at the University of Manchester Museum, Oxford Road, Manchester M13 9PL. Access is dependent on museum staff being available to accompany visitors to the archive. Members are advised to contact the Society Archivist for advice before visiting the museum. Please note the following:

- There is no access to the archive at weekends, and weekday lunchtimes should be avoided.
- Arrangements for visiting the archive should be made by contacting Dr Rachel Webster (Rachel.E.Webster@manchester.ac.uk. The museum phone number is 0161 275 2648.
- Items for the archive should be sent to the Archivist, A.R. Busby, at his home address; collection can be arranged for heavy or bulky items.
- Items can only be loaned if prior permission has been received from the Archivist.
- Any items removed from the archive should be entered in the Archive Loans Book.
- A copy of the current archive catalogue can be obtained either by e-mail or post from A.R. Busby at 16 Kirby Corner Road, Canley, Coventry CV4 8GD (02476 715690).

We are always anxious to acquire photographs, documents, horticultural catalogues and press cuttings for the archive. Pre-1890 items are particularly valuable.

This past year several people have utilised the archive, including a request from a researcher asking for a copy of a paper in a volume of the *Fern Gazette*.

My thanks go to the Committee, and in particular to Yvonne Golding and the Manchester Museum staff for the valuable assistance given to me during the year.

CULTIVAR REGISTRATION SUBCOMMITTEE – Martin Rickard

The *Osmunda regalis* register prepared by Matt Busby is virtually ready for publication. The much larger *Polypodium* register has stalled this year. Roger Golding has produced a working document based on my 1998 draft 'List of cultivars of the *Polypodium vulgare* agg.', which needs modification into registrar format and updating. This job has fallen to me but I regret that I have made virtually no progress this year.

OBITUARIES

Margaret Mary Kingston 1933 – 2011

It was with much sadness that we learned of the death of Margaret Kingston in January. She and her friend, the late Marjorie Castellan, were larger than life members who always had much to bring to our gatherings. Margaret, an assistant librarian, had been a member of this Society since 1964.

Being unable to drive, Margaret, along with a third companion, Winifred Baines, relied on Marjorie's car for travelling to and around meetings. All three were great friends of Jimmy Dyce, who always referred to Marjorie and Margaret as 'the castle and the king'. All were very keen naturalists and had gathered much expertise from forays around their native Staffordshire. I was able to attend Marjorie's internment at Rugeley Church in 1988, so it was with a feeling of loss to me that we only learned in April of Margaret's death.

Our thanks to Margaret's cousin, David Kingston, for informing us of Margaret's passing, and our sincere condolences to her family and friends.

A.R. Busby

Lesley Anne Marshall-Williams 1945 – 2011

Lesley was introduced to the BPS around 1990 after her partner Graham Ackers first joined the Society. Lesley and Graham met through a joint interest in marine conservation and they had been together for more than 30 years when Lesley died on 12th October after struggling with cancer for three and a half years. During her illness she remained positive and demonstrated remarkable bravery. She worked for many years as a teacher in schools and later taught environmental studies to residential students in Field Centres. Outside of work her main hobbies were gardening, horticulture and botany. She had an insatiable urge to propagate and I was one of those lucky recipients who inherited some of her nurtured plants. I first met Lesley on the BPS excursion to Trinidad and found her very knowledgeable, friendly and sociable. She was very fit and could walk for miles, even uphill when the rest of us were flagging. Personally I will particularly remember her great kindness during another BPS excursion, to La Réunion, when she rescued me from the volcano! After walking across a hot and unforgiving lava field and reaching the perimeter of the volcano, I felt that I just couldn't go any further. Lesley not only stayed with me and accompanied me back but also shared her lunch with me. Many BPS members and friends attended her green burial at Oakfield Wood, Cranleigh, Surrey in early November. We send Graham our deepest sympathy.

Yvonne Golding

IN MEMORIAM

We were also sorry to learn of the death of the following (date joined BPS in brackets):

Mrs Rosemary A. Powis of Canterbury, Kent (1999). The South-East Group gradually came to know Rosemary about four years ago when she was determined to get to know the ferns of Kent as well as possible. She was a very gentle and interesting person and when one year I had not seen her at a meeting I mentioned it while in contact with her brother Eric Philp, the Kent vice-county recorder and author of two splendid works on the Kent Flora. He mentioned that sadly Rosemary had been diagnosed with cancer. I was in contact with Rosemary a couple of times before she unfortunately died.

Pat Acock

MEMBERSHIP LIST: ADDITIONS & AMENDMENTS

NEW MEMBERS

** new members 2011, ** new members 2012, # members rejoined 2011, ## members rejoined 2012*

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FERN RECORDS

Mike Porter

Following the request to the BPS committee to publish new fern distribution records, a short list, drawn from BSBI Plant Records, was published in the 2009 *Bulletin*. As indicated at the time, our intention was to publish further records from this source, possibly on a biennial basis, and the second tranche of records follows below.

Twice a year, the BSBI publishes in one of its journals (*Watsonia* until 2010, the *New Journal of Botany* from 2010) under the title of Plant Records, a list of species new to any of the vice-counties of the British Isles. Additionally, those species that have recently been recorded for the first time since 1970 are also published. With the permission of the BSBI, we have selected from these lists the species of particular interest to members of the BPS and these are set out below. These records are drawn from the journals published in 2010 and 2011. Please note that only records actually sent to the Plant Records Editor are published.

Each entry contains the Latin name of the species as given in *Watsonia* / *New Journal of Botany* (in bold), the number (in bold) and name of the vice-county, the habitat, the location, a grid reference, the name of the recorder, the year the record was made, (where appropriate) the name of the expert who determined or confirmed the record, (where appropriate) the name of the herbarium where the specimen is lodged (in bold) and (sometimes) a comment giving more information about the plant, its status or its discovery.

N.B. An asterisk * before the vice-county number indicates a new record for that vice-county.

Adiantum capillus-veneris ***83**, Midlothian: south-facing wall, opposite herbarium, about 1m above pavement with abundant *Asplenium ruta-muraria*, Inverleith Row, Edinburgh, NT248756, H. McHaffie, 2003. Since weed-killed by Council. ***H36**, Tyrone: walls in Caledon Estate, H747436, I. McNeill & J. Faulkner, 2000. Probably escaped from nearby greenhouses.

Asplenium obovatum subsp. **lanceolatum** **101**, Kintyre: dolerite dyke on coast, Ardnacross, NR76642554, I. & C. Russell, 2007, det. F. McGavigan & H. McHaffie. 141 plants over 2x10m (18 in 1971). 1st record since 1971. Only known site in Scotland.

Diphasiastrum alpinum ***82**, E. Lothian: several on stony margin of track beside electricity power line at 370m, Killpallet Heights, NT612615, M.E. Braithwaite, 2010. Recent colonist.

Dryopteris × ambroseae (D. dilatata × D. expansa) ***62**, N.E. Yorks.: single plant, edge of boggy patch in deciduous woodland, East Arnecliffe Wood, Glaisdale, NZ792048, K. Trewren, 1995. Confirmed by chromosome count. About 200 plants known in the wood in 2008.

Dryopteris × deweveri (D. carthusiana × D. dilatata) ***106**, E. Ross: Orrin Bridge, NH504532, A.C. Jermy & R.M. Walls, 1996. Further record made by R. Golding in 2009, confirmed by K. Trewren, at edge of pine plantation near Munlochy at NH647520.

Dryopteris × mantoniae (D. oreades × D. filix-mas) ***42**, Brecon: stone wall, Mynydd Epynt, 8km SW of Builth Wells, SN976461, A. Orange & R.G. Woods, 2008, det. G. Hutchinson.

Dryopteris × sarvelae (D. carthusiana × D. expansa) ***62**, N.E. Yorks.: five plants (possibly one connected plant) in damp deciduous woodland, East Arnecliffe Wood, Glaisdale, NZ791047, K.Trewren, 2007. Confirmed by chromosome count.

Dryopteris affinis subsp. **borreri** ***106**, E. Ross: Orrin Bridge, NH504532, A.C. Jermy & R.M. Walls, 1996. Further record made by R. Golding in 2009 at edge of pine plantation near Munlochy at NH647520.

Dryopteris affinis subsp. **cambrensis** ***5**, S. Somerset: single plant in hedge bank, N side of track, Maundown Hill, ST060284, M. J. Stribley, 2007, conf. K. Trewren. ***62**, N.E. Yorks.: steep wooded slope below cliffs, Kay Nest, Tripsdale, SE583986, V. Jones & K. Trewren, 1996.

Equisetum × rothmaleri (E. arvense × E. palustre) ***62**, N.E. Yorks.: large patch on waste ground of a long-abandoned nursery, near Love Lane, Pickering, SE802847, V. Jones & W.A. Thompson, 2008, conf. P.J. Acock, **herb. V. Jones**, **herb. P.J. Acock**. ***89**, E. Perth: side of burn, Allt Coire Lagain, Shinagag, Killiecrankie, NN951687, H. McHaffie, 2004, conf. C.N. Page, **RBG Edinburgh (E)**.

Equisetum × willmotii (E. fluviatile × E. telmateia) ***101**, Kintyre: roadside ditch, Cloanaig bay, NR872563, P. Stanley, B. Laney & K. Turner, 2007, det. P.J. Acock. A few stems among *E. telmateia*.

Huperzia selago **81**, Berwicks.: one plant on forestry trackside, Hartside Hill, NT445543, M.E. Braithwaite, 2009. 1st record since 1896.

Lycopodium annotinum **106**, E. Ross: wet heath at 530m, Meall na Speireig, NH304700, B.R. & C.B. Ballinger, 2009. Site extends into NH36 at NH309699.

Polypodium × shivasiae (P. interjectum × P. cambricum) ***5**, S. Somerset: patch in hedge bank, West Leigh, ST114311, M. J. Stribley, 2007, conf. R. Cooke.

Polypodium interjectum ***91**, Kincardines.: rocks, Den of Finella, St Cyrus, NO76T, U.K. Duncan, 1961, det. A.C. Jermy, **Aberdeen (ABD)**.

Trichomanes speciosum **H36**, Tyrone: shady rocks at Strabane Glen, H3598, R. Northridge, 2005. Gametophyte. 1st record since 1891, when sporophyte was recorded 'within 5 miles of Strabane', possibly at same site. **H36**, Tyrone: shady rocks at St Patrick's Chair, H597496, R. Northridge, 2008. Gametophyte.

THE AMERICAN FERN SOCIETY

The AFS invites all readers of this *Bulletin* to join the American Fern Society. You are welcome to visit the AFS website: amerfernsoc.org. Regular members receive *Fiddlehead Forum* five times a year, a newsletter published for those who are interested in growing ferns, hunting for them and expanding their knowledge of ferns. Journal members also receive the scientific quarterly *American Fern Journal*. Membership costs $22 and $40 per annum respectively for members residing outside USA, Canada or Mexico, including postage for airmail-assisted delivery. For particulars please write to Dr George Yatskievych, Missouri Botanical Garden, P.O. Box 299, St Louis, Missouri 63166-0299, USA (george.yatskievych@mobot.org). Online credit card payment is now available for the AFS via the AFS website.

AFS SUBSCRIPTION PAYMENTS: Our societies have an exchange arrangement whereby members of the BPS can pay their AFS subscription through the BPS Membership Secretary and *vice versa*. To take advantage of this, prospective members residing in Great Britain should contact Mr M.G. Taylor, Westlea, Kyleakin, Isle of Skye IV41 8PH (Membership@eBPS.org.uk).

MEETINGS PROGRAMME 2012

Meetings Secretary: B.D. Smith
Meetings Subcommittee: P.J. Acock, R.J. Cooke, R. Golding, N.J. Hards, J.M. Ide, P.H. Ripley, M.H. Rickard, F.J. Rumsey

Sat. 18 Feb. - Fri. 2 March **Overseas Field Meeting – South Africa**
Leader: Jennifer Ide

Sat. 14 April **AGM & Spring Indoor Meeting – Natural History Museum, London**
Leader: Pat Acock

Fri. 8 - Sun. 10 June **Weekend Field Meeting – Wiltshire**
Leader: Nick Hards

Thurs. 5 - Sat. 14 July **Overseas Field Meeting – Austria & Germany**
Leader: Rolf Thiemann Contact: Pat Acock

Thurs. 16 - Sun. 19 Aug. ***Southport Flower Show: BPS Stand**
Contact: Michael Hayward

Thurs. 20 - Sun. 23 Sept. **Long Weekend Field Meeting – Northumberland**
Leader: Rob Cooke

Sat. 17 Nov. **Autumn Indoor Meeting – Natural History Museum, London**
Leader: Fred Rumsey

** Event supported by, but not organised by, the BPS.*

For further details of these meetings please see the Meetings Programme sheets sent to members with the autumn mailing and also available on the BPS website. For general enquiries about meetings, contact the Meetings Secretary (Meetings@eBPS.org.uk).

Regional Meetings

These meetings are open to all members, so if you are visiting one of the following areas you would be very welcome to join in. For details of meetings please see the BPS website or contact the regional organisers by e-mail, or by post enclosing a stamped addressed envelope.

Cornwall	Matt Stribley, 8 St George's Road, Truro, Cornwall TR1 3JE Cornwall@eBPS.org.uk
East Anglia	Tim Pyner, 182 Southchurch Boulevard, Southend-on-Sea, Essex SS2 4UX; EastAnglia@eBPS.org.uk
Manchester & N. Midlands	Yvonne Golding, 7 Grange Road, Buxton, Derbyshire SK17 6NH ManchesterNorthMidlands@eBPS.org.uk
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Wessex	Jo Basil, 14 Royden Lane, Boldre, Hants. SO41 8PE & Mike Hill; Wessex@eBPS.org.uk
Yorkshire	Bruce Brown, 4 Bank Parade, Otley, West Yorks. LS21 3DY Yorkshire@eBPS.org.uk

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The British Pteridological Society

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The *Bulletin* Volume 7 Number 3 was published on 31 March 2011

Published by THE BRITISH PTERIDOLOGICAL SOCIETY,
c/o Department of Botany, The Natural History Museum,
Cromwell Road, London SW7 5BD

ISSN 0301-9195

Printed by Metloc Printers Ltd, Old Station Road, Loughton, Essex